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Supreme Court of the Unifed States

OCTOBER TERM, 1990

STATE OF ARKANSAS, et al.,
Petitioners,

STATE OF OKLAHOMA, et al., Respondents.

Petition for a Writ of Certiorari to the United States Court of Appeals for the Tenth Circuit

APPENDIX TO PETITION FOR A WRIT OF CERTIORARI

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APPENDIX A

UNITED STATES COURT OF APPEALS TENTH CIRCUIT

Nos. 89-9503, 89-9507 and 89-9516

THE STATE OF OKLAHOMA, OKLAHOMA SCENIC RIVERS COMMISSION AND POLLUTION CONTROL COORDINATING BOARD; SAVE THE ILLINOIS RIVER (STIR), a non-profit corporation of the State of Oklahoma; CITY OF FAYETTEVILLE, ARKANSAS; THE BEAVER WATER DISTRICT; STATE OF ARKANSAS; ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY,

Petitioners,

v.

Environmental Protection Agency, Respondent,

OKLAHOMA WILDLIFE FEDERATION,
Intervenor.

July 11, 1990

Robert A. Butkin (Robert H. Henry, Atty. Gen., and William J. Holmes, Asst. Atty. Gen., State of Okl., Ed Edmondson and Julian K. Fite, Muskogee, Okl., on the briefs), Oklahoma City, Okl., for petitioners, State of Okl., Oklahoma Scenic Rivers Com'n and Pollution Control Coordinating Bd.

John Steven Clark, Atty. Gen. (R.B. Friedlander, Sol. Gen., Attys. for State of Ark., Steven Weaver, Anne Roberts Bobo, Attys. for Arkansas Dept. of Pollution Control & Ecology, Little Rock., Ark., James N. McCord, Atty. for City of Fayetteville, Ark., Niblock Law Firm, Atty. for Beaver Water Dist., Fayetteville, Ark., on the brief), for petitioners, City of Fayetteville, Ark., Beaver Water Dist., State of Ark., Arkansas Dept. of Pollution Control and Ecology.

Gary Guzy (Catherine A. Winer, Pat Rankin, U.S. E.P.A., and Richard B. Stewart, Asst. Atty. Gen., with him on the briefs), U.S. Dept. of Justice, Washington, D.C., for respondent.

Ed Edmondson, Muskogee, Okl., appearing for Save the Illinois River.

Before ANDERSON and BRORBY, Circuit Judges, and THEIS, District Judge.

BRORBY, Circuit Judge.

In these consolidated appeals, appellants challenge certain actions of the U.S. Environmental Protection Agency (EPA) in issuing a discharge permit pursuant to the National Pollutant Discharge Elimination System (NPDES) of the Clean Water Act, 33 U.S.C. § 1342. We review EPA's action pursuant to our authority under 33 U.S.C. § 1369(b) (1) and reverse.

OVERVIEW

The city of Fayetteville, Arkansas, applied to EPA for an NPDES permit for a new municipal wastewater treatment plant. Fayetteville proposed to discharge treated wastewater via a split flow into the White River in Akansas and into Mud Creek, a tributary of the Illinois River, an Arkansas-Oklahoma interstate stream.

The State of Oklahoma and a nonprofit group, Save The Illinois River (STIR), requested denial of the permit. The State of Arkansas and the Oklahoma parties requested an evidentiary hearing on EPA's issuance of the permit. A hearing request was granted in part and denied in part by an Administrative Law Judge (ALJ). and the partial denial was upheld by the EPA Administrator acting through his Chief Judicial Officer (CJO). After the evidentiary hearing, the ALJ determined that the permit would not have an undue impact on water quality or violate Oklahoma's water quality standards (WQS). This initial decision was appealed by both Arkansas and Oklahoma. On appeal, the ALJ's decision was affirmed in part and reversed in part and remanded for a determination whether the record showed by a preponderance of the evidence that the permitted discharge would not cause an actual, detectable violation of WQS. On remand the ALJ reviewed the record and made detailed findings. He concluded that the permit could issue as written, finding that it would not result in any measurable violations of Oklahoma's WQS. The ALJ's decision on remand was appealed to the CJO who upheld it in a decision dated December 22, 1988. These petitions for review followed.

Appellants the State of Oklahoma, Oklahoma Scenic Rivers Commission, Oklahoma Pollution Control Coordinating Board, and STIR (the "Oklahoma parties," or Oklahoma) set forth ten issues in their joint brief-inchief. Essentially they contend that EPA erred in concluding that the permit would not violate Oklahoma's WQS; that EPA did not properly consider the Wild and Scenic Rivers Act, 16 U.S.C. §§ 1271-1287 (WSRA), as it applies to the upstream portions of the Illinois River; and that EPA erred in denying review of certain issues and in refusing to reopen the evidentiary hearing. The State of Arkansas, Arkansas Department of Pollution Control Ecology, City of Fayetteville, and Beaver Water District (the "Arkansas parties," or Arkansas) challenge

^{*}The Honorable Frank G. Theis, Senior United States District Judge for the Distr' of Kansas, sitting by designation.

EPA's authority to require an Arkansas discharger to comply with Oklahoma water quality standards.

BACKGROUND

The cornerstone of the Clean Water Act. 33 U.S.C. §§ 1251-1387, is its prohibition of any discharge of pollutants to navigable waters except as permitted by the Act. 33 U.S.C. § 1311(a). Section 101 of the Act. 33 U.S.C. § 1251(a) (1), states that "it is the national goal that the discharge of pollutants into navigable waters be eliminated by 1985." "Discharge of a pollutant" is defined expansively as "any addition of any pollutant to navigable waters from any point source." § 1362(12) (A), "Pollutant" is also broadly defined; it includes "dredged spoil, solid waste, . . . sewage, garbage, sewage sludge, . . . chemical wastes, . . . rock, sand, . . . and industrial, municipal, and agricultural waste." § 1362 (6). "Point source" encompases "any discernible, confined and discrete conveyance, including . . . any pipe, ditch, channel, tunnel, [or] conduit . . . from which pollutants are or may be discharged." § 1362(14). "Navigable waters" means "the waters of the United States." § 1367(7).

Discharges of pollutants must comply with limitations established in and pursuant to the Act. "Effluent limitations," i.e., limits on "quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources," § 1362(11), may be water quality-based, §§ 1312, 1313, or technology-based, §§ 1311(b), 1314(b). EPA is required to establish water-quality based restrictions whenever technology-based limits are inadequate to protect a particular body of water. § 1312(a). The CWA sets minimum requirements for water pollution control; states may devise more stringent measures. § 1370. State standards, once approved by EPA, become the water quality standards for the applicable waters of the State. § 1313.

Federal and state effluent limitations and water quality standards are transformed into individual point source obligations through NPDES discharge permits. § 1342; EPA v. California ex rel. State Water Resources Control Bd., 426 U.S. 200, 205, 96 S.Ct. 2022, 2025, 48 L.Ed. 2d 578 (1976). Permits may be issued if the discharge will meet all applicable requirements under the Act. § 1342(a) (1). EPA is responsible for issuing permits, id., but may delegate that authority to qualified states, § 1342(b). In those states, however, it retains oversight authority with respect to individual permits and the permitting programs in general. § 1342(c), (d).

EPA issued Fayetteville's NPDES permit because at the time this proceeding commenced Arkansas had not yet been delegated permitting authority pursuant to \$ 1342(b). The permit was issued on November 5, 1985, and finally approved on December 22, 1988, following the administrative appeals described above. The treatment plant has been in operation since December 1988.

The permit (NPDES Permit No. AR0020010) specifies that half of the city's treated wastewater will be discharged to the White River in Arkansas (this portion of the discharge is not in contention here), and half will be discharged to the Illinois River basin. Specifically, this latter effluent will be discharged to an unnamed stream in northwestern Arkansas, which flows approximately two miles before joining Mud Creek. Mud Creek flows three miles from that point to its confluence with Clear Creek, thirteen miles upstream from the Illinois River in Arkansas. Twenty-two miles downstream from Clear Creek—and thirty-nine miles from the Fayetteville plant the Illinois River crosses the state line into northeastern Oklahoma and almost immediately flows into Lake Frances. A segment of the Illinois River (including Lake Frances) from the Oklahoma-Arkansas state line to Tenkiller Ferry Reservoir has been designated an Oklahoma state scenic river and was proposed for study as a potential addition to the National Wild and Scenic Rivers System when the WSRA was enacted in 1970. 16 U.S.C. § 1276(40). To date, this segment, which is approximately sixty miles long, has not been designated a component of the national system. See 16 U.S.C. § 1273.

The Fayetteville permit sets limits on the amounts of certain pollutants that may be discharged and establishes maximum or minimum effluent concentrations of those pollutants and other chemical parameters. Permit, EPA Supp. Addendum at 12-30. The permit prohibits the discharge of any incompletely treated effluent to Mud Creek. Id. at 27. It also includes, inter alia, a provision for modifying the permit to incorporate more stringent limitations if an ongoing study of the Illinois River demonstrates such limitations are needed to ensure compliance with water quality standards. Id.

ANALYSIS

I. Standard of Review

Review of the EPA rulings on appeal here is governed by the Administrative Procedure Act, 5 U.S.C. §§ 701-706. We must uphold the agency's actions, findings, and conclusions unless they are outside the agency's statutory authority, are not supported by substantial evidence, or are arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law. 5 U.S.C. § 706(2)(A), (C), and (E). We may not substitute our judgment for that of the agency. Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43, 103 S.Ct. 2856, 2866, 77 L.Ed.2d 443 (1983).

Nevertheless, the agency must examine the relevant data and articulate a satisfactory explanation for its action including a "rational connection between the facts found and the choice made." In reviewing that explanation, we must "consider whether the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment." Normally, an agency rule would be arbitrary and capricious if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.

Id. at 43, 103 S.Ct. at 2866 (citations omitted).

Determining the extent of EPA's authority under the Clean Water Act is a question of law that we review de novo. "Our first inquiry is whether 'Congress has directly spoken to the precise question at issue. If the intent of Congress is clear that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress." Martin Exploration Management Co. v. FERC, 813 F.2d 1059, 1065 (10th Cir.1987) (quoting Chevron, U.S.A., Inc. v. NRDC, 467 U.S. 837, 842-43, 104 S.Ct. 2778, 2781-82, 81 L.Ed.2d 694 (1984), rev'd on other grounds, 486 U.S. 204, 108 S.Ct. 1765, 100 L.Ed.2d 238 (1988)). However, where the statute is ambiguous, EPA's construction, as that of the agency charged with administering the statute, is entitled to substantial deference. Chevron, U.S.A., Inc. v. NRDC, 467 U.S. 837, 844, 104 S.Ct. 2778, 2782, 81 L.Ed.2d 694 (1984). If EPA's interpretation of the Clean Water Act is reasonable, we should not disturb it unless it "is contrary to the policies Congress sought to implement in enacting the statute." 813 F.2d at 1065; see also 467 U.S. at 845, 104 S.Ct. at 2783.

¹ 33 U.S.C. § 1251(d) provides: "Except as otherwise expressly provided in this chapter, the Administrator of the Environmental Protection Agency . . . shall administer this chapter."

II. Preliminary Procedural Matters

As an initial matter we address EPA's argument that Arkansas lacks standing to challenge EPA's interpretation of the Clean Water Act. EPA reasons that

Arkansas, by not challenging any of the terms of the Fayetteville permit, has failed to state a justiciable case or controversy. . . . Arkansas' claim is purely hypothetical and would not be redressed by a favorable decision of this Court, just as its allegations as to future permit conditions are purely speculative.

EPA Brief at 13-14. EPA also rejects Arkansas's argument that it may be collaterally estopped in subsequent proceedings if it does not pursue this argument now by assuring Arkansas that EPA would not contest the justiciability of the claim if raised in the context of future permit decisions. EPA Brief at 14; see Arkansas Reply Brief at 11 n. 18.2

Section 509 of the Clean Water Act provides that "[r]eview of [EPA's] action . . . in [, inter alia,] issuing or denying any permit under section 1342 of this title . . . may be had by any interested person." 33 U.S.C. § 1369(b) (emphasis added). The legislative history corroborates what the language itself suggests—that the Act intended liberal review of EPA's actions in is-

suing permits and promulgating rules and standards. The Senate Public Works Committee explained section 509's judicial review provision as follows:

Any person has standing in court to challenge administratively developed standards, rules and regulations under the Act. The courts are increasingly adapting this test to what administrative actions are reviewable. . . . The Courts have granted this review to those being regulated and to those who seek "to protect the public interest in the proper administration of a regulatory system enacted for their benefit." Since precluding review does not appear to be warranted or desirable, the bill would specifically provide for such review within controlled time periods. . . .

402 [33 U.S.C. § 1342] . . . , the section places jurisdiction in the U.S. Court of Appeals. . . .

S.Rep. No. 414, 92d Cong. 2d Sess., reprinted in 1972 U.S.Code Cong. & Admin.News 3668, 3750-51 (emphasis added; citation omitted); see also Conf.Rep. No. 1236, reprinted in 1972 U.S. Code Cong. & Admin. News 3776, 3825. The Supreme Court reiterated the expansive language of the Senate Report in Middlesex County Sewerage Auth. v. National Sea Clammers Ass'n, 453 U.S. 1, 14 n. 23, 101 S.Ct. 2615, 2623 n. 23, 69 L.Ed.2d 435 (1981) ("review provisions of 509 are open to '[a] ny person,' S.Rep. No. 92-414, p. 85 (1971)"); cf. Montgomery Envtl. Coalition v. Costle, 646 F.2d 568, 576-78 (D.C.Cir.1981) (§ 509 "incorporate[s] the injury in fact rule for standing set out in Sierra Club v. Morton," 405 U.S. 727, 92 S.Ct. 1361, 31 L.Ed.2d 636 (1972)).

It would strain the meaning of "any interested person" to exclude from those eligible to obtain review of an EPA permit action the state in which the publicly owned treatment works seeking the permit is located, which partially

² Arkansas also attempted to raise the Clean Water Act interpretation issue in another forum. In September 1988 it moved for leave to file a complaint against Oklahoma in the Supreme Court, invoking the Court's original jurisdiction under Article III, section 2, of the Constitution. The United States opposed the motion, arguing (according to Arkansas) that the statutory question could more appropriately be resolved in the context of judicial review of the issuance of Fayetteville's permit. Arkansas Reply Brief at 11 n. 18; EPA Brief at 10. The Supreme Court denied Arkansas's motion. Arkansas v. Oklahoma, 488 U.S. 1000, 109 S.Ct. 776, 102 L.Ed.2d 769 (1989). Arkansas now argues that "it cannot rely to its detriment on such 'assurances' from the EPA in this case for the same reason it could not rely on the United States' 'assurances' in [Arkansas v. Oklahoma]." Arkansas Reply Brief at 11 n. 18.

financed the facility's construction, and which, among other entities, has review and approval authority over the facility's construction and operation. We conclude Arkansas does have standing to challenge EPA's determination that Oklahoma water quality standards apply to the plant.³

Before undertaking a discussion of the merits, we must consider a second procedural issue—whether Arkansas has exhausted its administrative remedies. EPA's regulations provide that a petition "for review of any initial decision . . . is, under 5 U.S.C. 704, a prerequisite to the seeking of judicial review of the final decision of the Agency." 40 C.F.R. § 124.91(e). The rule requires EPA to "issue an order either granting or denying the petition for review" within a reasonable time after the petition is filed. § 124.91(c) (1). "Final Agency action" for purposes of judicial review occurs "upon completion of the remanded proceeding, including any appeals to the [EPA] Administrator from the results of the remanded proceeding." § 124.91(f) (3).

Although the parties do not raise this issue, we have detected two arguable procedural deficiencies in Arkansas's appeal in light of § 124.91. First, the Arkansas parties may have failed to comply with the technical requirements of subsection (e). Although they filed a petition for review of the ALJ's decision on remand, R., B-155, it appears they did not file a petition for review of the ALJ's initial decision as required by the rule, but merely filed a response to the Oklahoma parties' petitions for

review of that decision. Compare Order on Petitions for Review, R., A-28 at 1, with EPA Brief at 8. Although "[t]he Arkansas parties raised [the statutory interpretation] issue in numerous pleadings filed with EPA," Arkansas Brief at 32 n. 24, Arkansas's argument that Oklahoma WQS should not apply to a discharge located in Arkansas was first asserted to (and rejected by) the ALJ after remand by the CJO.4

Secondly, EPA's action in this case was arguably not "complete" with respect to the Arkansas parties because the CJO failed to "issue an order either granting or denying [Arkansas's] petition for review." § 124.91(c)(1). Although all parties petitioned EPA for review of the ALJ's decision on remand, R., B-155-59, the CJO's second order ruled only on the petitions filed by EPA-Region VI and the Oklahoma parties. The order failed even to acknowledge Arkansas's petition. See Second Order on Petitions for Review, R., A-37, at 1-2.

Nevertheless, under the circumstances of this case, we do not view these shortcomings as fatal to Arkansas's appeal. EPA's position on the basic issue raised by the Arkansas parties—whether the Fayetteville discharge must comply with Oklahoma WQS—has been clear since the ALJ's initial decision and is directly at odds with Arkansas's position. In his second and final opinion the CJO clearly affirmed his June 1988 ruling that Oklahoma WQS are applicable to the Fayetteville discharge. In so doing, he implicitly, if not expressly, denied Arkansas's petition for review of the ALJ's decision on remand. Thus, it would be fruitless to remand to the agency for mere technical compliance with subsection (c) (1)'s requirement

Moreover, we could reach the statutory construction issue—a legal question—even if we were to decide Arkansas lacked standing to raise it. Whether EPA acted within its statutory authority is subject to our review under 5 U.S.C. § 706(2)(A). Thus, we reject any suggestion by EPA that, if Arkansas lacks standing, this court lacks jurisdiction to decide the statutory issue on the merits. See EPA Brief at 14 n. 8, 15. For similar reasons we reject EPA's argument that Arkansas's claim is not ripe for review. EPA Brief at 14.

⁴ Moreover, Arkansas presented inconsistent arguments in the remand proceeding, claiming first that the 1982, not the 1985, Oklahoma WQS should apply, but then arguing that Oklahoma's Beneficial Use Limitations specifically cannot apply to a discharge located in Arkansas. See Decision on Remand, R., A-33, at 2-3; Supplemental Joint Briefs submitted by Arkansas Parties, R., B-144 at 7-8, 25-33.

for "an order . . . denying review." Cf. Mathews v. Eldridge, 424 U.S. 319, 96 S.Ct. 893, 47 L.Ed.2d 18 (1976); Koerpel v. Heckler, 797 F.2d 858, 862 (10th Cir.1986); Clonce v. Presley, 640 F.2d 271, 273 (10th Cir.1981) (citing Lewis v. New Mexico, 423 F.2d 1048, 1049 (10th Cir.1970)).

Moreover, no objection to Arkansas's failure to seek review of EPA's initial decision should now be allowed, given that Arkansas participated in the review of the initial decision (by responding to Oklahoma's petition) and the CJO expressly provided that the "parties will have the opportunity to petition for review of the ALJ's decision on remand." Order on Petitions for Review, R., A-28, at 17 (emphasis added). Accordingly, the Arkansas parties' appeal is ripe for our review, and we proceed with our discussion of the merits.

III. Statement of Issues

Arkansas poses the fundamental question in this case: Does the Clean Water Act require a point source of pollution to comply with the water quality standards of all affected downstream states? Oklahoma assumes such a requirement in that it challenges EPA's determination that the Fayetteville permit would not result in violations of Oklahoma's water quality standards and argues accordingly that no discharge to Oklahoma's Illinois River system should be allowed.

Oklahoma formulates the issues on appeal as "[w] hether the Chief Judicial Officer erred in denying review" of various ALJ rulings and whether the CJO and ALJ "erred in [refusing] to reopen the evidentiary hearing." Despite this formulation, it seems clear that the Oklahoma parties' chief concerns relate to the substantive issues underlying these procedural questions. The substantive issues are: (1) the adequacy of the treatment technology employed by the Fayetteville plant and the possible superiority of land application methods; (2) the propriety of considering evidence concerning future reductions in

the discharges of other Arkansas cities; (3) the propriety of relying on "protective language" in the permit authorizing more stringent discharge limitations if shown to be necessary by an ongoing study of the Illinois River; (4) the correctness of EPA's interpretation and application of Oklahoma's beneficial use limitation, nutrient standard, and anti-degradation policy; (5) the relevance of new information concerning overflows at the old treatment plant; and (6) whether Fayetteville met its burden of proof in showing that a permit should be issued for its treatment plant. Our review of the record convinces us that we need not resolve many of the issues raised by the Oklahoma parties. In the following pages we address first the statutory interpretation question posited by Arkansas and then a significant issue not raised by any party-the significance of evidence of existing degradation of Illinois River water quality.

A. Construction of the Clean Water Act The Opposing Views

The full ramifications of Arkansas's formulation of the Clean Water Act issue are exposed once it is realized that an upstream state has the ability (if not the legal right) largely to control the quality of certain of the waters of a downstream state. It can accomplish this simply by setting and enforcing its own water quality standards and releasing water of that quality to the downstream state. If the upstream state's water quality standards are lower than those considered desirable by the downstream state, so will be the actual quality of the interstate waters in the downstream state. In other words, the lowest common denominator will prevail. The ultimate question posed to this court is whose water quality standards take precedence under the Clean Water Actthe upstream state's, the downstream state's, the federal government's, or nobody's. We conclude that no state "imposes" its standards on another state, but rather that the Clean Water Act mandates compliance with federal

law, including the federally approved water quality standards of affected states.

Specifically, Arkansas alleges an affected downstream state "may advise and make recommendations, but nowhere in the Clean Water Act did Congress authorize affected states such as Oklahoma to impose their water quality standards upon a discharger in another state." Arkansas's Brief at 39. We treat this, the principal issue of the case, as whether the Clean Water Act requires that any discharge permitted under 33 U.S.C. § 1342 comply with all applicable water quality standards, including the EPA-approved regulations of any affected downstream state. This is an issue of first impression in the circuit courts.

The Fayetteville plant has been required by EPA to observe federal law, i.e., Oklahoma's EPA-approved water quality standards. See Order on Petitions for Review, R., A-28, at 11 n. 13. Thus, it is misleading to say "Oklahoma . . . impose[d its] water quality standards" on Arkansas, or that Oklahoma has the "right to block" a permit issued by Arkansas. See, e.g., Arkansas's Brief at 33, 36, 38-40. The 1982 Oklahoma water quality standards, which EPA judged aplicable to the Fayetteville plant, had been approved by EPA. Whether Fayetteville might also be subject to observing Oklahoma state standards that have not received EPA approval is not an issue in this case, and we do not address it. Accordingly, throughout this opinion we use "applicable water quality standards" to mean EPA-approved water quality standards that govern the affected waters, and "Oklahoma water quality standards" to mean Oklahoma's EPA-approved water quality regulations.

⁶ This statement requires a brief explanation of a recent Fourth Circuit case. In Champion Int'l Corp. v. EPA, 648 F.Supp. 1390

EPA's Chief Judicial Officer, in his first order in this case dated June 28, 1988, stated the law and applied it as follows:

(W.D.N.C.1986), motion for withdrawal of mandate denied, 652 F.Supp. 1398 (W.D.N.C.1987), the district court upheld EPA's assumption of permitting authority under 33 U.S.C. § 1342(d) (4) after EPA objected when North Carolina proposed to permit a discharge in North Carolina without regard for Tennessee water quality standards. The court held that a discharge permit must ensure compliance with the requirements of the CWA, and that EPA reasonably could have concluded that the North Carolina permit, in disregarding the Tennessee water quality standard for color, would not ensure such compliance. 648 F.Supp. at 1394-99. Upon reconsideration in light of an intervening Supreme Court case, however, the district court offered the following limiting statement: "Nothing in the regulatory framework surrounding the CWA would automatically require that a source state comply with the water quality standards of every downstream state." 652 F.Supp. at 1400.

Subsequently, the district court's judgment was vacated by the Fourth Circuit with instructions to dismiss for lack of subject matter jurisdiction. Champion Int'l Corp. v. EPA, 850 F.2d 182 (4th Cir.1988). The circuit court prefaced and postscripted its decision by expressing its general agreement with "much of the district court's opinion." 850 F.2d at 183, 190. It also stated that "EPA's act in assuming the permit issuing authority was consistent with statute and regulation, and the objections it made to the North Carolina permit do not seem to be out of bounds." Id. at 187. However, the appellate court ultimately concluded:

The actions of EPA... at this stage of the NPDES proceeding are not now subject to judicial review. EPA has neither granted nor denied a permit, so such action is not yet reviewable under [33 U.S.C.] § 1369(b) (1). The nature of EPA's objections are well within the contemplation of those it is entitled to make under applicable regulations. 40 C.F.R. § 123.44(c). Whatever may be the result should EPA make an objection completely without its delegated authority, so as to subject that action to present judicial review under Leedom v. Kyne, [358 U.S. 184, 79 S.Ct. 180, 3 L.Ed.2d 210 (1958)], we have no occasion to consider, for such objections have not been made here.

850 F.2d at 190. The court stated that the district court "properly retained jurisdiction of the case in order to ascertain whether or not

The standard of the applicable waters of the CWA. \$1313(c) (3). Once approved, "such standard shall thereafter be the water quality standard for the applicable waters of that State." Id. EPA is required to promulgate revised WQS for any state that fails to adopt WQS consistent with CWA requirements and in any case where EPA determines that a revised or new standard is necessary to meet the requirements of the Act. §1313(c) (4).

The CWA requires an NPDES permit to impose any effluent limitations necessary to comply with applicable state water quality standards. . . . The meaning of [33 U.S.C. § 1311(b)(1)(C)] is plain and straightforward. It requires unequivocal compliance with applicable water quality standards, and does not make any exceptions for cost or technological feasibility. . . .

the record shows by a preponderance of the evidence that the authorized discharge would not cause an actual detectable violation of Oklahoma's water quality standards.

Order on Petitions for Review, R., A-28, at 11-13. The CJO explained that in an interstate dispute the "only applicable water quality standards are those that have been approved by EPA under the CWA." Order on Peti-

EPA acted within its delegated authority," and agreed with the district court's decision that EPA was so acting. But it held that, once the district court made that determination, it should have dismissed for want of subject matter jurisdiction and not reached the merits. Id. Champion's holding is limited to the narrow determination that EPA had not acted "clearly beyond the boundaries of its authority." Id. at 186. Indeed, the court added: "Even if EPA may ultimately be shown to be incorrect in its objections to North Carolina's permit (and we do not intimate that they are), its acts are not so clearly outside its authority to subject them to immediate judicial review. . . " Id. at 187. Thus, Champion does not decide the merits of the question we face, i.e., whether the CWA requires that an NPDES permit ensure compliance with an effected downstream state's water quality standards.

One other case deserves brief mention here. In Montgomery Envtl. Coalition, the D.C. Circuit stated: "A state whose water quality will be affected by the issuance of a permit for discharge in another state may block that permit until conditions are imposed insuring compliance with applicable water quality requirements of the objecting state." 646 F.2d at 594 n. 21. But in the next breath the court acknowledged this was not an issue in Montgomery; thus, the language is dictum.

tions for Review at 11 n. 13 (citing Illinois v. City of Milwaukee, 731 F.2d 403, 413-14 (7th Cir.1984), cert. denied, 469 U.S. 1196, 105 S.Ct. 979, 980, 83 L.Ed.2d 981 (1985)). In noninterstate disputes, however, "the source state may impose more stringent non-EPA-approved water quality standards in NPDES permits under 33 U.S.C.A. § 1370." Order on Petitions for Review at 12 n. 13.

On remand, the ALJ expressed similar views:

It is clear that an out-of-state source must meet the W.Q.S. of another downriver state. See § 401 (a) (2) of the CWA [33 U.S.C. § 1341 (a) (2)]; 40 C.F.R. §§ 122.4 (D) and 122.44 (d) (4); International Paper Co. v. Ouellette, 479 U.S. 481, 107 S.Ct. 805, 93 L.Ed.2d 883 (1987). Therefore the Fayetteville discharge must meet Oklahoma's W.Q.S. as they exist at the border of the two states. . . .

that the beneficial use limitations do not apply to Fayetteville] would violate the principals [sic] set out above since it is premised on the notion that such standards only apply to sources located in the State of Oklahoma. There is no factual issue among the parties that the Illinois River at the border of the two states is a Class (A) River and therefore the standards applicable to pollution crossing that border must comply with Oklahoma's W.Q.S. as they exist at that point. Any other interpretation would allow a source to locate its discharge just across the line in Arkansas and freely violate Oklahoma standards. Such a result is contrary to the [Clean Water Act], regulations and Court decisions.

Decision on Remand, R., A-33, at 4-5. The ALJ's interpretations of Oklahoma's WQS, including the Beneficial Use Limitations, were ultimately affirmed by the CJO. The CJO also reiterated the mandate of his first order—

that "'the permit should be upheld if . . . the authorized discharges would not cause . . . [a] violation of Oklahoma's water quality standards,"—and accepted the ALJ's conclusion that no violation would occur. Second Order on Petitions for Review, R., A-37, at 7-8.

The Arkansas parties contend we need look no further than the Clean Water Act to decide this issue because "Congress has clearly manifested its intent [in the CWA] that affected states cannot impose their water quality standards upon dischargers in other states." Arkansas Brief at 42; see id. at 33-40. Alternatively, if we decide congressional intent is ambiguous, they urge us to reject EPA's interpretation as unreasonable. Id. at 42. EPA also claims the CWA is "clear that the terms of an NPDES permit must include compliance with state water quality standards-regardless of the source of a discharge." EPA Brief at 15-16. Therefore, EPA maintains, resort to the legislative history-which EPA contends corroborates EPA's interpretation-is unnecessary. Id. at 20 (citing United States v. Oregon, 366 U.S. 643, 648, 81 S.Ct. 1278, 1280-81, 6 L.Ed.2d 575 (1961)). In the event we conclude congressional intent is ambiguous, EPA alternatively defends the reasonableness of its interpretation of the CWA and argues that, under Chevron, 467 U.S. at 844-45, 104 S.Ct. at 2782-83, it must therefore be upheld. EPA Brief at 13, 15.

We do not find the Clean Water Act, on its face, quite as clear a manifestation of congressional intent on this issue as any of the parties suggests. Significantly, however, EPA's interpretation is not one the agency adopted only, or in the first instance, in the context of this permit proceeding. Rather, EPA's position herein is consistent with its CWA-implementing regulations. For example, 40 C.F.R. § 122.4(d) expressly provides: "No permit may be issued: . . . (d) When the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States." (Emphasis

added.) Concomitantly, EPA's rules require permits to include, where applicable, "any requirements . . . necessary to . . . [c]onform to applicable water quality requirements . . . when the discharge affects a state other than the certifying State [i.e., the state in which the discharge will be located]." § 122.44(d)(4). See also 40 C.F.R. § 131.10(b) (state "shall ensure that its water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters"). We accord deference to the consistent interpretation of a statute by the agency entrusted with its administration. See 33 U.S.C. § 1251(d); Federal Election Comm'n v. Democratic Senatorial Campaign Comm., 454 U.S. 27, 37, 102 S.Ct. 38, 44, 70 L.Ed.2d 23 (1981); cf. E.I. DuPont De Nemours & Co. v. Train, 430 U.S. 112, 135 n. 25, 97 S.Ct. 965, 978 n. 25, 51 L.Ed.2d 204 (1977) (EPA interpretation entitled to deference, even if not contemporaneous with enactment of CWA, in light of technical nature of statute, agency's expertise, and ambiguous statutory language). After considering the Act as a whole and its legislative history, we conclude EPA's interpretation is reasonable and consistent with Congress's purposes in enacting the CWA.

2. The Parties' Statutory Arguments

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In defending its construction of the CWA the EPA relies principally on § 301(b)(1)(C) of the Act, 33 U.S.C. § 1311(b)(1)(C), which provides:

In order to carry out the objective of this chapter [i.e., to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters," 33 U.S.C. § 1251] there shall be achieved . . . not later than July 1, 1977, any more stringent limitation, including those necessary to meet water quality standards, . . . established pursuant to any State law or regulations (under authority preserved by section 1370 of this title). . . or required to implement any

applicable water quality standard established pursuant to this chapter.

(Emphasis added.) Section 402(a)(2) and (b)(1)(A) of the CWA, 33 U.S.C. § 1342(a)(2), (b)(1)(A), in turn mandates that any NPDES permit issued under the Act contain terms adequate to insure compliance with § 301 above. See EPA Brief at 16.

EPA rejects Arkansas's argument that these sections are "mere timing provisions." Id. (citing Arkansas Brief at 34-35). On the contrary, EPA argues, these sections establish fundamental requirements of the Act. Moreover, EPA contends that Congress, by making no distinction between the water quality standards of source and affected states in these requirements, "indicated the uniform applicability of such standards." EPA Brief at 16-17.

Arkansas counters that § 1311 does not explain whether the "more stringent limitations" must be achieved by dischargers in other states, but that section 510, 33 U.S.C. § 1370 limits the "reach" of any stricter standards to discharges originating within the state imposing those standards. Arkansas Brief at 35.* This argument relies largely on language in § 1370 preserving "any right or jurisdiction of the States with respect to the waters . . . of such States." The argument suffers from at least three flaws, however.

First, § 1370 is a savings clause that merely preserves the preexisting right of the states "to set more restrictive standards than those imposed by [the CWA]." S.Rep. No. 414, reprinted in 1972 U.S. Code Cong. & Admin. News 3668, 3751. See also International Paper Co. v. Ouellette, 479 U.S. 481, 493, 107 S.Ct. 805, 812, 93 L.Ed.2d 883 (1987) (§ 1370 savings clause "preserves the authority of a State," but "does not preclude preemption" of state law); Milwaukee v. Illinois, 451 U.S. 304, 327-28, 101 S.Ct. 1784, 1797-98, 68 L.Ed.2d 114 (1981). Accordingly, there is no basis for believing that Congress intended § 1370 to limit or define the scope of one of the CWA's crucial provisions. The cases Arkansas

⁷ Under the 1972 CWA amendments, water quality standards are considered "supplementary control measures"-"supplementary" in the sense that they are in addition to point source effluent limitations, the control measure upon which the 1972 CWA Amendments primarily rely to achieve the Act's objective of eliminating pollutant discharges into navigable waters by 1985. State Water Resources Control Bd., 426 U.S. at 203-05 & n. 12, 96 S.Ct. at 2024-25 & n. 12 ("[w]ater quality standards are retained as a supplementary basis for effluent limitations . . . so that numerous point sources, despite individual compliance with effluent limitations, may be further regulated to prevent water quality from falling below acceptable levels"). See 33 U.S.C. §§ 1251(a)(1), 1311(b)(1)(A); see also S.Rep. No. 414, reprinted in 1972 U.S.Code Cong. & Admin. News 3668, 3675 ("Under this Act the basis of pollution prevention and elimination will be . . . effluent limitations. Water quality will be a measure of program effectiveness and performance, not a means of elimination and enforcement."). That WQS are "supplementary" in the scheme of the Clean Water Act is, however, irrelevant to the question of their applicability across state lines.

^{8 33} U.S.C. § 1370 provides:

Except as expressly provided in this chapter, nothing in this chapter shall (1) preclude or deny the right of any State or political subdivision thereof or interstate agency to adopt or enforce (A) any standard or limitation respecting discharges of pollutants, or (B) any requirement respecting control or abatement of pollution; except that if an effluent limitation, or other limitation, effluent standard, prohibition, pretreatment standard, or standard of performance is in effect under this chapter, such State or political subdivision or interstate agency may not adopt or enforce any effluent limitation, or other limitation, effluent standard, prohibition, pretreatment standard, or standard of performance which is less stringent than the effluent limitation, or other limitation, effluent standard, prohibition, pretreatment standard, or standard of performance under this chapter; or (2) be construed as impairing or in any manner affecting any right or jurisdiction of the States with respect to the waters (including boundary waters) of such States.

cites to the contrary are unavailing for that purpose. See Arkansas Brief at 35-36 n. 28.

Second, the "waters . . . of such States" language, which Arkansas deems significant, occurs in and applies only to the second of two principal provisions of § 1370. That provision (subparagraph (2)) refers broadly to "any right or jurisdiction of the States." In contrast, the first provision (subparagraph (1)) specifically addresses the rights of states and their subdivisions to regulate pollution. Subparagraph (1) says nothing about the boundaries within which such rights may be exercised. Thus, "waters . . . of such states" cannot be construed as a limitation on the rights to regulate pollution preserved in the first part of this section.

Third, thoughtful consideration of the language of § 1311(b)(1)(C)—

there shall be achieved . . . any more stringent limitation, including those necessary to meet water quality standards . . . established pursuant to any State law or regulations . . . or required to implement any applicable water quality standard established pursuant to this chapter

(emphasis added)—exposes the irrationality of Arkansas's argument. In order to ensure that the EPA-approved water quality standards in all states are "met" or "implemented," it is "necessary" to require dischargers to

meet the applicable requirements of other affected states as well as those of the source state. There could be no assurance of achieving a state's more stringent WQS if an upstream, out-of-state discharger were not required to comply with those standards.

EPA concludes and we agree that Arkansas's construction of the Act would make achieving downstream water quality standards "impossible in many circumstances or . . . possible . . . only by imposing a disproportionate burden on dischargers located in the downstream state." EPA Brief at 21.10 Moreover, rewarding sources for locating in states with less stringent water quality requirements (by relieving them from complying with more stringent downstream WOS) would also result in "pollution shopping," contrary to Congress's intent in passing the 1972 CWA amendments.11

Arkansas counters that EPA's construction of the Act would have "chaotic" consequences because any downstream state could impose its requirements on proposed sources in any upstream state. Arkansas Brief at 46-

⁹ We do not suggest one state may directly regulate the conduct of a discharger in another state. Such exercise of jurisdiction would exceed traditional bounds of sovereignty. Nor does the Act redefine those bounds to allow dual permitting. See Ouellette, 479 U.S. at 491, 107 S.Ct. at 811. But the question posed here is whether federal law embodied in the Clean Water Act requires a discharge permit to ensure compliance with the applicable WQS of all affected states. Traditional concepts of state powers and the § 1370 savings clause cannot provide the answer to that question. We must look to the CWA as a whole.

¹⁰ The agency contends that its regulations and the legislative history manifest an intent to distribute the burden of meeting water quality standards among all discharges on and affecting a particlular waterway. See EPA Brief at 22 & n. 19.

¹¹ In its bill amending section 402 of the Act in 1977 to authorize EPA to issue an NPDES permit where it determines a state-issued permit is inadequate, the Senate committee stated: "EPA has been much too hesitant to take any actions where States have approved permit programs. The result might well be the creation of 'pollution havens' in some of those States which have approved permit programs. This result is exactly what the 1972 amendments were designed to avoid." S.Rep. No. 370, 95th Cong. 1st Sess. at 73, reprinted in 1977 U.S.Code Cong. & Admin.News 4326, 4398.

EPA argues reasonably that Arkansas's interpretation would encourage sources to locate in states with less stringent water quality requirements. A source located immediately above a state boundary would not be required to meet the more stringent requirements, if any, of the downstream state, even though that state may be most affected by the discharge.

47. Thus, Arkansas hypothesizes, a permit authorizing a discharge to the Mississippi River in Minnesota would be subject to challenge based on the water quality standards of each of the nine downstream states. *Id.* at 46 (citing *Ouellette*, 479 U.S. at 496 n. 17, 107 S.Ct. at 814 n. 17). Arkansas's purported concern is that this would undercut the CWA's "orderly regulatory scheme," making it "virtually impossible to predict the standard for a lawful discharge into an interstate body of water." Arkansas Brief at 47 (quoting *Illinois v. Milwaukee*, 731 F.2d at 414).

We find little practical merit in Arkansas's agreement. The ability, as well as the authority, to require compliance with the WQS of downstream states is necessarily limited by the ability to measure a source's impact on the water quality of the receiving waters. At some point downstream, the impact on water quality of a particular pollution source becomes so attenuated as to be undetectable. Assuming the quality of the receiving waters currently meets or exceeds standards, there can be no violation of standards if the impact of the proposed source on the water quality could not be measured.12 Nor is it "impossible to predict the standard[s]" applicable to a new discharge, as Arkansas claims. First, EPA approval of state WQS determines the potentially applicable rules. Furthermore, the permitting system established in the 1972 and 1977 amendments to the CWA clearly provides for consultation with and input by states that may be affected. Finally, computer modeling (such as that performed for the Fayetteville plant) can predict the extent of a new source's potential impact, thus demonstrating which states' WQS must be met.

3. Illinois v. Milwaukee and Ouellette

Arkansas cites International Paper Co. v. Ouellette and Illinois v. Milwaukee in support of its statutory construction argument, but that reliance is misplaced. In each of those cases an affected state was seeking to enjoin an ongoing discharge in another state by resort to its own state law nuisance remedies. 479 U.S. at 483, 107 S.Ct. at 807; 731 F.2d at 404. In contrast, this case is a permitting, rather than an enforcement, action wherein Oklahoma seeks to ensure compliance with federal law, i.e., its EPA-approved WQS. The Seventh Circuit in Illinois v. Milwaukee recognized this distinction when it pointed out that

Illinois' basic grievance is that the permits issued to Milwaukee pursuant to the [CWA] do not impose stringent enough controls on the discharges. Nevertheless, Illinois failed to participate in the permit issuing process when the Milwaukee permits were issued. . . . [T]hat process seems now to be the appropriate federal forum for adjusting the competing claims of states in the environmental quality of interstate waters.

731 F.2d at 412-13 n. 5. The court found that Illinois had "not sought to enforce an effluent limitation under Wisconsin [law] nor sought to enforce federal limitations as provided for under the 1972 [CWA]" and concluded that the CWA "preclude[s] the type of application of state law sought by Illinois." 731 F.2d at 414.

The Supreme Court's decision in Ouellette is somewhat more problematic, even though, like Illinois v. Milwaukee, it is not factually or procedurally similar to this case. The specific issue in Ouellette was whether the CWA preempted a common law nuisance suit filed in a Vermont court under Vermont law against a New York discharger, which was the source of the alleged injury in Vermont. The Court concluded that "Vermont nuisance

¹² See part III.B. of this opinion for a discussion of the significance in the permitting context of preexisting WQS violations.

law is applicable to a New York point source," 479 U.S. at 497, 107 S.Ct. at 814; however, it chose to express its holding more broadly. The Court stated: "We hold that when a court considers a state-law claim concerning interstate water pollution that is subject to the CWA, the court must apply the law of the State in which the point source is located," id. at 487, 107 S.Ct. at 809, and "we conclude that the CWA precludes a court from applying the law of an affected State against an out-ofstate source," id. at 494, 107 S.Ct. at 813. The Ouellette Court's discussion of the CWA includes statements that Arkansas concedes "may be dicta." Arkansas Reply Brief at 18. But it is these statements concerning the regulatory framework of the CWA and the relative roles of source and affected states which Arkansas embraces. In particular, Arkansas asks us to give weight to the following discussion:

While source States have a strong voice in regulating their own pollution, the CWA contemplates a much lesser role for States that share an interstate waterway with the source (the affected States). Even though it may be harmed by the discharges, an affected State only has an advisory role in regulating pollution that originates beyond its borders. . . . Significantly, however, an affected State does not have the authority to block the issuance of the permit if it is dissatisfied with the proposed standards. An affected State's only recourse is to apply to the EPA Administrator, who then has the discretion to disapprove the permit if he concludes that the discharges will have an undue impact on interstate waters.

Ouellette, 479 U.S. at 490-91, 107 S.Ct. at 810-11, quoted in Arkansas Brief at 41.

While we agree these statements seem to undercut EPA's position, it is beyond dispute that they are dicta and not controlling here. Ouellette was an enforcement

action in which the issue was the availability of a nuisance remedy under the common law of an affected state against an out-of-state discharger. Even the Court's broadly stated holdings were expressed in terms of "a state-law claim concerning interstate water pollution," 479 U.S. at 487, 107 S.Ct. at 809 (emphasis added), and "applying the law of an affected State," id. at 494, 107 S.Ct. at 813 (emphasis added). In contrast, the case before us poses the question of the applicability of the federally approved water quality standards of an affected downstream state in permitting a discharge in an upstream state.¹³

Moreover, Ouellette contains other dicta that mitigate the apparent impact of the language quoted above. For instance, the Court noted that nothing in its decision affected the plaintiffs' right to "pursue remedies that may be provided by the Act." 479 U.S. at 498 n. 18, 107 S.Ct. at 814-15 n. 18. The Court pointed out, as examples, that the plaintiffs had the opportunity to protect their interests before permit issuance by commenting on and objecting to the proposed permit conditions, and that they still were entitled to bring a citizen suit to compel compliance with the permit. Id.

Ouellette also suggested that what the plaintiffs there sought to do was akin to establishing a second permit system, which the Court held is disallowed by 33 U.S.C. § 1342(b). See id. at 491, 496-97, 107 S.Ct. at 811, 814. That § 1342(b) limits a state's permitissuing authority to "discharges . . . within its jurisdiction" is beyond dispute. But this provision must not be construed to imply anything concerning the applicability of an affected state's EPA-approved WQS to the process of permitting a dis-

¹³ Both EPA judicial officers here referred to this distinction in discussing what water quality standards are "applicable" or "enforceable" for purposes of NPDES permitting. Order Denying Review, R., A-3, at 7; Order on Petitions for Review, R., A-28, at 11-12 n. 13.

charge in an upstream state. The Act contains several provisions for considering and protecting the water quality of downstream states (including provisions authorizing the actions taken by EPA here). Those provisions are not inconsistent with the Act's implicit prohibition of dual permitting systems. Indeed, if properly implemented, they negate any need for separate permits issued by source and affected states.

The Court's opinion in Ouellette corroborates this reasoning. As the Court observed:

Nothing in the Act gives each affected State this power to regulate discharges. The CWA carefully defines the role of both the source and affected States, and specifically provides for a process whereby their interests will be considered and balanced by the source State and the EPA. This delineation of authority represents Congress' considered judgment as to the best method of serving the public interest and reconciling the often competing concerns of those affected by the pollution. It would be extraordinary for Congress, after devising an elaborate permit system that sets clear standards, to tolerate commonlaw suits that have the potential to undermine this regulatory structure.

479 U.S. at 497, 107 S.Ct. at 814. Plainly, Ouellette was concerned not with the CWA's provisions for incorporating a downstream's water quality criteria in the permitting process, but with preventing a downstream state from circumventing or superseding that process by imposing on an already-permitted source additional requirements based on its own state law. So viewed, Ouellette is entirely consistent with EPA's interpretation of the applicability of Oklahoma's WQS. Cf. Champion, 652 F. Supp. at 1400 (concluding that nothing in Ouellette required a modification of the decision of 648 F.Supp. 1390 that a North Carolina discharge permit must require compliance with an applicable Tennessee WQS).

4. The Statutory and Regulatory Framework

The erroneous interpretation of Ouellette, which Arkansas advocates, runs aground when the Clean Water Act is considered as a whole. The Act contains several mechanisms for ensuring that minimum water quality and pollution criteria will apply to all navigable waters of the United States; for example, prohibiting the discharge of pollutants except pursuant to a permit, 33 U.S.C. §§ 1311, 1342; requiring EPA to establish effluent limitations for point source discharges; §§ 1311-1312; providing for EPA's approval of water quality standards, § 1313, and state permit programs, § 1342(b); and establishing minimum procedural requirements for state permit programs, § 1314(i). As discussed above, however, states are not precluded from imposing pollution limitations more stringent than those promulgated by EPA. 33 U.S.C. § 1370; 40 C.F.R. § 122.1(f); Milwaukee v. Illinois, 451 U.S. at 327-28, 101 S.Ct. at 1797-98. Moreover, the CWA requires the application of best available control technology or best practicable treatment to discharges of pollutants, 33 U.S.C. § 1311, and the Act's legislative history reveals that Congress intended the CWA to be "technology-forcing." S.Rep. No. 414, reprinted in 1972 U.S.Code Cong. & Admin.News 3668, 3709 (Act contains a "mandate to press technology and economics" to achieve practicable and attainable levels of effluent reduction; thus, "increasingly tougher controls on industry" will be required); see also Natural Resources Defense Council, Inc. v. EPA, 822 F.2d 104, 123-24 (D.C.Cir. 1987). Any standard or limitation adopted by a state and approved by EPA becomes the "water quality standard for the applicable waters of that State," and thus is federally enforceable. 33 U.S.C. § 1313(c)(3). See also §§ 1319, 1342; S.Rep. 414, reprinted in 1972 U.S.Code Cong. & Admin. News 3668, 3672; Order on Petitions for Review, R., A-28, at 11-12 n. 13.

a. 33 U.S.C. § 1341

EPA finds support for its action here in certain of the foregoing sections. In addition, we consider 33 U.S.C. § 1341 particularly persuasive. It provides that no NPDES permit may be granted until a "certification" is obtained from the state in which the discharge originates (or from EPA where no state agency possesses such authority, § 1341(a)(1); 40 C.F.R. § 121.21(b)), stating that the discharge will comply with, among other things, § 1311 water quality requirements. Section 1341(a)(2) provides:

Whenever such a discharge may affect, as determined by the [EPA] Administrator, the quality of the waters of any other State, the Administrator . . . shall so notify such other State. . . . If . . . such other State determines that such discharge will affect the quality of its waters so as to violate any water quality requirement in such State, and . . . notifies the Administrator . . . and requests a public hearing . . ., the licensing or permitting agency shall hold such a hearing. . . . [The licensing or permitting] agency, based upon the recommendations of such State, . . . shall condition such license or permit in such manner as may be necessary to insure compliance with applicable water quality requirements. If the imposition of conditions cannot insure such compliance such agency shall not issue such license or permit.

"'[T]he purpose of [§ 1341(a) (2)] notice requirement is to enable a state whose water quality may be affected by the proposed federal activity an opportunity to insure that its standards will be complied with.'" EPA Brief at 17-18 (emphasis added) (quoting Lake Erie Alliance for the Protection of the Coastal Corridor v. U.S. Army Corps of Eng'rs, 526 F.Supp. 1063, 1075 (W.D.Pa.1981), aff'd without opinion, 707 F.2d 1392 (3d Cir.), cert. denied, 464 U.S. 915, 104 S.Ct. 277, 78 L.Ed.2d 257 (1983)).

EPA's regulations reaffirm this view, see 40 C.F.R. §§ 121.1-.30,11 as does the limited case law, see, e.g., United States v. Commonwealth of Puerto Rico, 721 F.2d 832, 833-34 (1st Cir. 1983) (certification is a "condition precedent to the EPA's issuance of a NPDES permit"; "state decision denying certification, or one imposing conditions or restrictions, is not reviewable administratively by the EPA" and is "exempt from review in federal court").

Arkansas disputes that "applicable water quality requirements" in § 1341(a)(2) refers to the WQS of the affected state.15 Based on its plain language, however, we agree with EPA that the purpose of this provision must be to enable affected states to ensure that their water quality will not be jeopardized by a discharge in another state. Only a strained interpretation of the statute could produce the result Arkansas seeks-that "applicable water quality requirements" refers to the WQS of only the source state. Moreover, there would be no reason for § (a) (2) to refer to the effect on the quality of the affected state's waters in terms of "violat[ing] any water quality requirement in such State" if the affected state's water quality requirements were irrelevant in the permitting process. Given that this subsection of the statute deals expressly with effects on states other than the source state, it is much more likely that "applicable" refers simply to those federally approved water quality requirements of affected states that would be violated if the permit were not appropriately conditioned. We reject Arkansas's argument to the contrary.

The legislative history of the certification statute sheds additional light on this matter. In 1977 Congress amended the statute

¹⁴ Subpart B of these rules deals specifically with determining the effect of proposed discharges on other states.

¹⁵ Arkansas refers erroneously to the section as 33 U.S.C. § 1342(a) (1). Arkansas Brief at 34 n. 27.

to add section 303 [33 U.S.C. § 1313, "water quality standards and implementation plans"] to the list of the act's provisions for which a State must certify compliance This means that a federally licensed or permitted activity, including a discharge permit under section 402, must be certified to comply with State water quality standards adopted under section 303.

S.Rep. No. 370, at 72, reprinted in 1977 U.S.Code Cong. & Admin.News 4326, 4397; H.Conf.Rep. No. 830, at 96, reprinted in 1977 U.S.Code Cong. & Admin.News 4424 4471. According to the committees, the amendment was not meant to change the law but to follow and clarify the original congressional intent that "State water quality standards would be imposed through Section 301, and thus certification by the State would include consideration of water quality standards." 1977 U.S.Code Cong. & Admin. News at 4397. The conference committee added that "[s] ection 303 is always included by reference where section 301 is listed." H.Conf.Rep. No. 830, at 96, reprinted in 1977 U.S.Code Cong. & Admin.News 4424, 4471. The Senate committee offered this further explanation of the amendment:

[A] Il States have approved water quality standards. Thus, it is reasonable to require that Federal permits and licenses should take into account State water quality plans, standards and requirements adopted under section 303 to assure maintenance of water quality in the respective States.

Id. at 4398. Neither the statute as amended nor the committee reports concerning the bills distinguish between source and affected states. Thus, EPA's view that sources subject to NPDES permits must comply with all approved state water quality standards is a reasonable interpretation in light of this history.

b. 33 U.S.C. § 1342

Also germane to EPA's construction of the CWA is the fact that, in those states authorized to issue NPDES permits, the EPA Administrator retains authority to veto any proposed permit if he objects to its issuance. 33 U.S.C. § 1342(d) (2).17 EPA may object on the basis of either of two grounds: (1) that a permitting state failed to accept recomendations from another state whose waters may be affected by permit issuance; or (2) that the permit is "'outside [i.e., inconsistent with] the guidelines and requirements' of the Act." EPA Brief at 18-19 (quoting 33 U.S.C. § 1342(d)(2)).18 The statute mandates that "[n]o permit shall issue" if EPA objects for either reason. § 1342(d)(2). If the source state does not revise the proposed permit to satisfy EPA's objection, EPA may issue a discharge permit, § 1342(d)(4), but it may not issue a permit less stringent than that required by any state's effluent limitations and water quality criteria. H.R.Conf.Rep. No. 830, 95th Cong., 1st Sess., 97, reprinted in 1977 U.S. Code Cong. & Admin. News 4424, 4472. Given that a permit program administered by EPA is subject to the same requirements as apply to an approved state program, § 1342(a)(3), no reasonable argument would justify invalidating a state-issued permit that fails to account for the WQS of another state, yet allowing EPA to issue a permit objectionable on the same ground.19

¹⁶ See supra note 5 for a brief discussion of § 303 of the CWA, 33 U.S.C. § 1313.

¹⁷ EPA may also withdraw approval of a state permit program if EPA determines the state is not administering its program in accordance with CWA requisites. 33 U.S.C. § 1342(c) (3).

¹⁸ EPA's regulations elaborate on these two grounds, enumerating seven possible bases for an EPA objection to a state-issued permit. 40 C.F.R. § 123.44(c).

¹⁰ Section 1342(d)(3), the paragraph immediately following the veto provision, states: "The [EPA] Administrator may, as to any permit application, waive paragraph (2) of this subsection." The discretionary language of this paragraph initially gave us pause, especially in light of the mandatory tone of paragraph (2) ("No

Although several of the CWA terms discussed in the foregoing paragraphs have no direct application to the permit in this case (because EPA, not Arkansas, is the permitting agency), they reflect the objectives and policies behind the Act and the statutory framework established for implementing them. Because nothing in the Act suggests that permits issued by states are subject to more stringent requirements than those issued by EPA—indeed, § 1342(a) (3) mandates that permits issued by EPA and the states "shall be subject to the same terms, conditions and requirements"—any term of the Act directed to state permitting agencies is instructive as to EPA's permitting responsibilities and authority as well.

permit shall issue" if the Administrator objects). After careful study of the statute and the legislative history, however, we believe the legislative history reveals that EPA's discretion arises only with respect to its authority to choose to review or not review a permit application of which it is notified by a permit-issuing state pursuant to § 1342(d) (1). See Mianus River Preservation Comm. v. Administrator, EPA, 541 F.2d 899, 907-09 (2d Cir.1976) (discussing legislative history of § 402 of the CWA). Such discretion is consistent with congressional intent to allow EPA-approved, qualified states to administer their own permit programs. An implicit component of this discretion, once exercised, is EPA's authority to determine the impact of a proposed discharge and whether that impact is acceptable under the CWA.

Once EPA chooses to review a permit application and proposed permit under this section, we do not believe it has "discretion" to overlook any violation of the CWA revealed by its review. Cf. § 1342(c) (3) (if EPA determines a state permit program is not being administered in accordance with § 1342, it "shall withdraw approval of such program" (emphasis added)); § 1313(c) (4) (EPA "shall promulgate" new or revised WQS where necessary to meet CWA requirements or where state has promulgated inadequate standard); contra Mianus River, 541 F.2d at 909 & n. 24. Interpreting § 1342(d) (3) otherwise (i.e., as making all of the provisions of § 1342(d) (2) discretionary) is inconsistent with the spirit and framework of the CWA and with the express prohibition against discharging any pollutant except in compliance with the Act. 33 U.S.C. § 1311(a).

The Arkansas parties construct a similar argument (based on the relation between EPA's and the states' permitting responsibilities) to urge an opposite result, however. They contend:

Section 1342(b)(5) very clearly indicates that an affected state can only be an advisor to the source state in the permitting process when that process has been delegated to a state to administer. . . . Thus, it makes little sense to suggest . . . that a source state discharger must comply with affected state water quality standards when the permitting authority is the EPA rather than a delegated state.

Arkansas Brief at 38-39.20 Arkansas correctly suggests it would make "little sense" if the applicability of a downstream state's water quality standards depended on what entity (EPA or the source state) issues the permit. However, Arkansas's argument that affected states are limited to an advisory role contains several fatal flaws.

First, in arguing, in effect, "an affected state may not require a source state to comply with the former's WQS; therefore, EPA may not require such compliance," Arkansas's fundamental premise is faulty. The fact that an affected state may have only an "advisory role" under § 1342(b)(5) does not mean compliance with that state's approved water quality standards is discretionary. More-

²⁰ Section 1342(b) (5) provides:

The Administrator shall approve each such submitted [permit] program unless he determines that adequate authority does not exist...[t]o insure that any State (other than the permitting State), whose waters may be affected by the issuance of a permit may submit written recommendations to the permitting State (and the Administrator) with respect to any permit application and, if any part of such written recommendations are not accepted by the permitting State, that the permitting State will notify such affected State (and the Administrator) in writing of its failure to so accept such recommendations together with its reasons for so doing[.]

over, § 1342(b) (5) merely describes part of the procedures a state permit program must provide for insuring communications among the source state, an affected state, and EPA concerning the permitting of a new discharge in the source (permitting) state. See also § (b) (3)-(4). Standing alone, the subsection says nothing about whether compliance with affected states' WQS is optional or obligatory.

Second, Arkansas's argument focuses on one paragraph in isolation, rather than in the context of the entire Act, or even in the context of § 1342 as a whole. Section 1342(b) provides that the EPA Administrator shall approve any program submitted by a state desiring to administer its own permit program unless he determines, essentially, that the state proposal does not ensure adequate authority to administer the NPDES permit program properly. Subsection (b) (5), upon which Arkansas relies, is only one of nine specific grounds upon which EPA may refuse permitting authority to a state. 42(b) (1)-(9). Subsection (b) (1) (A), for example, ires adequate state authority to "issue permits which apply, and insure compliance with, any applicable requirements of sections 1311, 1312, 1316, 1317, and 1343 of this title." 21 § 1342 (b) (1) (A).

Arkansas's argument also overlooks the fact that § 1342(b) (5) derives from § 1341, the certification statute. As discussed earlier in this opinion, § 1341 not only provides for notice to potentially affected states, it requires that permits be conditioned so as to insure compliance with all applicable water quality requirements, and it prohibits issuing any permit that cannot insure such compliance. § 1341(a) (2).

Finally, Arkansas's argument must fail in the face of other CWA provisions heretofore discussed—in particular, EPA's authority to veto permits and to suspend state programs if they do not meet the requirements of the Act, § 1342(c)-(d), and the proviso that state and EPA permit programs be subject to the same terms and conditions, § 1342(a) (3).

c. EPA's "Upset" Regulation

We find still further support for EPA's construction of the CWA in the views the agency expressed in an earlier rulemaking proceeding. In the course of promulgating final regulations providing dischargers with a defense to violating effluent limits during unavoidable source "upset" conditions, EPA stated that "the CWA requires strict compliance with water quality standards"; thus, "water quality standards are . . . legally required to be met at all times." 49 Fed.Reg. 37,998, 38,038 (1984), quoted in Sierra Club v. Union Oil Co., 813 F.2d 1480, 1489 (9th Cir.1987), judgment vacated, 485 U.S. 931, 108 S.Ct. 1102, 99 L.Ed.2d 264 (1988); see 40 C.F.R. §§ 122.41(n), -.4(d).

The final "upset" rule provides that in certain narrowly defined circumstances technology-based effluent limitations may be exceeded (i.e., failure of pollution controls may be allowed). 40 C.F.R. § 122.41(n). Significantly, an industry-proposed defense for violation of water quality-based permit limits 22 was deleted in the final rule. EPA reasoned that, because water quality standards must be met at all times, even during "upset" conditions, "permittees would need to do continuous monitoring on all stream segments that may be affected" to ensure that water quality standards were not violated in order to establish the defense. 49 Fed.Reg. at 38,038

²¹ As EPA argues and we have already discussed, the requirement of compliance with state water quality standards arises from § 1311. Thus, via § 1342(b)(1)(A)'s requirement of compliance with § 1311, permits issued by states must ensure compliance with all applicable WQS.

²² In other words, industry proposed an "upset" defense for exceeding water quality-based effluent limitations, so long as the actual quality of the receiving waters did not fall below established WQS.

(emphasis added). The impracticality of such a requirement led EPA to reject the industry proposal. 49 Fed. Reg. at 38,038. Id.²³

This view that all potentially affected stream segments would have to be monitored reflects EPA's conviction that an upstream source whose effluent might affect the water quality of downstream states must comply with the WQS of those states. It is also consistent with EPA's belief that "strict compliance" with water quality standards is required by the CWA, because such compliance would be impossible if sources could disregard the WQS of states other than the source state.

According to EPA, the requirement of strict compliance with WQS derives from 33 U.S.C. § 1311(b)(1) (C), which mandates that "there shall be achieved . . . not later than July 1, 1977, any more stringent limitation . . . necessary to meet water quality standards." (Recall that all NPDES permits must ensure compliance with § 1311. § 1342(a)(1), (b)(1).) The legislative history of the section bears out EPA's interpretation. See S.Rep. No. 414, reprinted in 1972 U.S.Code Cong. & Admin. News 3668, 3710 (EPA "is under a specific obligation to require that level of effluent control which is needed to implement existing water quality standards without regard to the limits of practicability"). Even in 1977 when Congress "relaxed" the best available technology requirements in certain circumstances, the amended statute and the legislative history leave no doubt that water quality standards still must be maintained.24

In explaining the amendment the Senate committee cautioned:

. . . .

[T]he gains made as a result of the 1977 requirements could evaporate in the middle of the next decade if only the 1977 [effluent limitations] and new source performance standards are applied. Thus, for many riverways . . ., pressure must be maintained to assure improved water quality and to avoid slipping back.

The Committee intends that current effluent limitations . . . should represent a "floor" or minimum requirement of the modifications authorized by this section. Current levels of discharge must not be relaxed by this provision because that would imply additional treatment requirements on other point or nonpoint source dischargers.

Id. at 42, 44, reprinted in 1977 U.S. Code Cong. & Admin. News at 4367, 4369 (emphasis added). The Committee

practicable technology" instead of "best available technology" if 1983 water quality standards could be met thereby. The Senate committee explained that this allowance was being made to avoid "[effluent] treatment for the sake of treatment." S.Rep. No. 370, 95th Cong., 1st Sess. at 43-44, reprinted in 1977 U.S.Code Cong. & Admin.News 4326, 4368. To qualify for the waiver, the amended statute requires compliance with certain conditions, including attainment or maintenance of a high standard of water quality.

willingness to relax statutory effluent limitations as long as compliance with WQS is assured. This statute governs industrial discharges into "deep waters of the territorial seas." Subsection (m) (1) provides for issuing, under certain unique circumstances, permits containing "modified" effluent limitations (i.e., less stringent limits than otherwise required), provided that effluent limitations established in such permits are "sufficient to implement the applicable State water quality standards." § (m) (2). The statute further provides that EPA may terminate such a permit if it subsequently determines there has been a "decline in ambient water quality of the receiving waters . . . even if a direct cause and effect relation-

Fed.Reg. 32,854, 32,863 (1979) ("violations of . . . water quality based effluent limitations are not subject to a defense of upset"); see also Student Pub. Interest Research Group v. P.D. Oil & Chem. Storage, Inc., 627 F.Supp. 1074, 1086 (D.N.J.1986); Union Oil, 813 F.2d at 1489.

²⁴ The 1977 amendments added a "waiver" provision in section 301 of the Act (33 U.S.C. § 1311(g)) allowing for use of "best

also stated: "There is nothing in these new provisions which in any way preempts the rights of States to have more stringent water quality standards or associated effluent limitations" *Id.* at 43, U.S.Code Cong. & Admin. News at 4368.

d. 33 U.S.C. § 1365

One final provision of the CWA deserves mention in our discussion of the statutory interpretation issue. Section 505(h), 33 U.S.C. § 1365(h), authorizes the governor of a state to sue EPA to enforce an effluent standard or limitation under this chapter," the violation of which is occurring in another state and is "causing a violation of any water quality requirement in his state." Subsection (f) defines "effluent limitation or standard under this chapter" as including, for purposes of this section, certification under § 1341 and permits or conditions thereof issued under § 1342.

Clearly, the injury sustained by a state for which § 1365 provides a remedy is the impact on that state's water quality, not the violation of the "effluent standard or limitation" per se. This interpretation is dictated by common sense and congressional intent. See S.Rep. No. 414, reprinted in 1972 U.S.Code Cong. & Admin.News 3668, 3675 ("[T]he basis of pollution prevention and elimination will be the application of effluent limitations. Water quality will be a measure of program effectiveness and performance."). Arkansas's view that discharge permits are not required to ensure compliance with the applicable WQS of all affected states cannot be reconciled with § 1365(h)'s express remedy for the violation of "any water quality requirement" in one state, which results

from the violation of an "effluent limitation" (defined to include a permit condition) in another state.

Section 1365 reminds us that, under the CWA, effluent limitations are not an end in themselves, but simply a means to an end—the desired water quality. The plainest evidence of this can be found in 33 U.S.C. § 1311(b)(1)(C) (discussed at pages 604-605 of this opinion) and in § 1312, each of which reveals that the purpose of effluent limitations is to achieve a desired level of water quality. Section 1312, "Water quality related effluent limitations," provides:

Whenever, in the judgment of the [EPA] Administrator, discharges of pollutants from a point source or a group of point sources, with the application of effluent limitations required under section 1311(b) (2) of this title, would interfere with the attainment or maintenance of that water quality in a specific portion of the navigable waters which shall assure protection of public water supplies, agricultural and industrial uses, and the protection and propagation of a balanced population of shellfish, fish and wildlife, and allow recreational activities in and on the water, effluent limitations (including alternative effluent control strategies) for such point source of sources shall be established which can reasonably be expected to contribute to the attainment or maintenance of such water quality.

33 U.S.C. § 1312(a) (emphasis added). In other words, effluent limits more stringent than those required by 33 U.S.C. § 1311(b) (2) must, if feasible, be established by EPA and imposed on any sources responsible for interfering with the desired water quality in a specific stream segment.²⁶ In the words of the Senate committee:

ship cannot be shown," but that EPA shall terminate such a permit if the effluent from the source "is contributing to a decline in ambient water quality of the receiving waters." § (m)(4) (emphasis added).

²⁶ In addition, states are required to identify waters for which the effluent limitations established pursuant to § 1311 are "not stringent enough to implement any water quality standard applicable

The limitations necessary to achieve a given level of water quality in one reach of a waterway may require more control of effluents than that attainable through application of the best available technology. Where that is desirable to implement the policies of the Act, and feasible, [this section] provides the authority to impose controls based on water quality.

The concept of "alternative effluent control strategies" is necessary to account for [certain] difficulties in simply setting more stringent effluent limitations. . . . [F] urther reduction of the level of effluent entering the affected waters may not be possible through control technology, yet essential to water quality. Alternative effluent control strategies, such as the transportation of effluents to other less affected waters or the control of in-plant processes would have to be developed.

S.Rep. No. 414, reprinted in 1972 U.S.Code Cong. & Admin.News 3668, 3712-13 (emphasis added).

This section and its legislative history reveal the preeminent importance of water quality—actual and desired —in the framework of the CWA. Significantly, they lack evidence of any intent to limit the scope of § 1312 to the intrastate water quality effects of discharges. Indeed, the statute's use of the term "specific portion of the navigable waters" (like the Senate report's use of "one reach of a waterway" and "affected waters"), rather than language specifying waters of the source or permitting state, suggests that the section contemplates regulation of water quality without regard to state boundaries. Vesting authority in EPA, instead of in individual states, arguably suggests a similar intent.27

Considered together, all of the provisions of the CWA discussed above (§§ 1311, 1312, 1313, 1314, 1341, 1342, 1365, and 1370), as well as the legislative history and EPA's implementing regulations, evidence the reasonabless of EPA's interpretation of the Act. Accordingly, we hold that no discharge to a navigable water, such as the Illinois River, may be permitted unless compliance with all applicable water quality requirements, including the federally approved standards of affected downstream states, is assured.

B. Significance of Existing Violations of Illinois River Water Quality Standards

There is substantial evidence in the record of ongoing violations of Illinois River water quality standards, yet neither of the EPA judicial officers nor any of the parties addresses whether, or how, this is relevant to Fayette-ville's application to discharge to the Illinois River. We believe this situation poses an issue of critical importance—whether a new discharge may be permitted when the applicable water quality standards are already being violated.²⁸ Guided by the Supreme Court's pronouncement

to such waters," 33 U.S.C. § 1313(d)(1)(A), and to establish the acceptable "total maximum daily load" for pollutants in those waters, § 1313(d)(1)(C). Eventually, the states are required to establish total maximum daily loads for all waters. § 1313(d)(3).

²⁷ Section 302 of the conference substitute bill, which was ultimately enacted, was identical to the Senate provision discussed above with one exception: The conference committee eliminated the Senate bill's grant of authority to the states. In the statute as enacted (33 U.S.C. § 1312), authority to impose additional effluent limitations is vested solely in EPA. 1972 U.S.Code Cong. & Admin.News at 3799.

²⁸ Throughout this and the prior section of our opinion, we use "applicable water quality standards" to refer to those federally approved water quality requirements of affected states with which a proposed discharge must comply. See supra note 5. In this section, we refine the scope of the term to denote federally approved water quality requirements that are relevant to the physical and chemical makeup of a proposed source's effluent. For example, Oklahoma's nutrients standard is relevant to the Fayetteville plant because the

that an agency decision is arbitrary and capricious if the agency "entirely failed to consider an important aspect of the problem [or] offered an explanation for its decision that runs counter to the evidence before the agency." Motor Vehicle Mfrs., 463 U.S. at 43, 103 S.Ct. at 2856, we conclude EPA's decision to issue the Fayetteville permit was arbitrary and capricious. The agency's decision is also flawed by misinterpretation and misapplication of two important Oklahoma water quality regulations and by arbitrary disregard for certain expert testimony. For these reasons, discussed more fully below, we hold that the Clean Water Act prohibits granting an NPDES permit under the circumstances of this case (i.e., where applicable water quality standards have already been violated) and reverse EPA's decision to permit Fayetteville to discharge any part of its effluent to the Illinois River Basin.

1. Law Applicable to Oklahoma Scenic Rivers

The Upper Illinois River, including Lake Frances, from the Arkansas state line down to the 650-foot elevation level of Tenkiller Ferry Reservoir, is designated an Oklahoma state scenic river. Okla.Stat. tit. 82, § 1452(b) (1) (1990). As such, certain water quality standards apply to these waters. See Oklahoma Water Quality Standards (OWQS) § 4 & App. A (1982).29 Water quality standards

plant discharges phosphorus and nitrogen, but the temperature standard is irrelevant because, presumably, any impact that the plant's effluent might have on the temperature of water in the river would be so attenuated at the state line as to be undetectable. For the sake of convenience, we often refer simply to "Oklahoma water quality standards," or "WQS," but in each instance it is implied that those standards have been approved by EPA. We draw no conclusions about state requirements that may not have been approved by EPA.

²⁹ Water quality standards are promulgated by the Oklahoma Water Resources Board pursuant to Okla.Stat. tit. 82 § 926.3.6. Appendix A of the standards lists the following beneficial uses,

consist of two parts: a designated use or uses for the identified waters and water quality criteria for such waters based on those uses. 40 C.F.R. § 130.2(c); Okla. Stat. tit. 82 § 904(f); OWQS § 4. Of greatest interest for purposes of this discussion are the Illinois River's "fish and wildlife propagation" (primary warmwater fishery), "aesthetics," and "smallmouth bass" designated "beneficial uses." Within the latter two use categories, the following water quality criteria are particularly significant: turbidity (OWQS § 4.10(b)), nutrients (OWQS § 4.10(c)), and dissolved oxygen (OWQS § 4.11(a)). The occurrence of phosphorus and nitrogen in Fayette-ville's effluent necessitates the consideration of these criteria. **O**

As a preliminary matter, Oklahoma contends and we agree that EPA's judicial officers erred in concluding that Oklahoma's nutrients standard, § 4.10(c), applies only to lakes, not to streams. Decision on Remand, R., A-33, at 6; Second Order on Petitions for Review, R., A-37, at 8. Section 4.10(c) provides: "The total phosphorus concentration and the nitrogen/phosphorus concentration ratio

inter alia, for the Illinois River, including Lake Frances, and Tenkiller Reservoir below the scenic river: "public and private water supply," "fish and wildlife propagation" (primary warm-water fishery), "agriculture" (Class I irrigation), "primary and secondary recreation," "aesthetics," and "smallmouth bass." See OWQS § 4 & App. A. Recall that Oklahoma WQS have been approved by EPA. The particular standards applicable to the Fayetteville permit are those adopted in 1982. Second Order on Petitions for Review, R., A-37, at 5-6.

which, when added to an aquatic system, stimulate the growth of aquatic plants and other organisms, eventually altering biological characteristics of the system, such as species populations, biomass, and species abundance and diversity, as well as physical and chemical parameters, such as temperature, turbidity, color, and dissolved oxygen. In part B.2.c. of this discussion, we cite evidence in the record relating to the composition of Fayetteville's effluent and compliance with these criteria.

shall not be increased to levels which result in maninduced eutrophication problems." The source of the agency's confusion is the definition of "eutrophication (natural)" (included in Appendix C of the OWQS), which refers only to lakes.31 An Oklahoma witness at the administrative hearing explained that the definitions in the appendix are "scientific definitions," provided merely for clarification purposes, and that "the state does apply the eutrophication principle . . . to rivers." Tr. at 578. Apparently no one scrutinized the OWQS carefully enough to discover that the regulations themselves define the scope of the nutrient standard's application. Section 4, "Standards for Water Quality," unequivocally states: "Narrative standards [including] Section . . . 4.10(c) . . .' shall be maintained at all times and apply to all perennial and intermittent streams." (Emphasis added.) In addition, the preface to Appendix A of the OWQS states that § 4.10(c) applies even to those stream segments not listed in the appendix (i.e., stream segments for which beneficial uses have not been designated). Accordingly, we reject EPA's ruling that the nutrients standard applies only to Lake Frances and Tenkiller Reservoir and hold that it applies to the entire reach of the Illinois River in Oklahoma.

In addition to the nutrients standard, Oklahoma's "Anti-Degradation Policy," OWQS § 3, and "Beneficial Use Limitations," id. § 5, also protect the Upper Illinois River. 32 The Oklahoma parties assert that EPA also mis-

interpreted and misapplied these regulations. Their argument is rather unfocused, but they basically claim that "any increase in any 'wastes'... which may pollute or tend to pollute" the waters of a scenic river violates these rules. Oklahoma Brief at 32 (emphasis in original); see generally id. at 30-38.

The Beneficial Use Limitations regulation provides that scenic rivers "are protected by prohibition of any new point source discharge of wastes . . . except under conditions described in Section 3 [the Anti-Degradation Policy]." OWQS § 5. The relevant provision of § 3 states: "No degradation shall be allowed in high quality waters . . . includ[ing] water bodies . . . designated "Scenic Rivers." The Oklahoma courts apparently have not interpreted these provisions. 33 Nevertheless, we believe the

It is clearly the intent of the Legislature that the quality of state waters be progressively improved and not be allowed to be degraded. Oklahoma law does not set forth any exceptions.

It is, therefore, the official opinion of the Attorney General that . . . the [OWRB] may not adopt a statewide antidegradation policy which allows for lower water quality or limited degradation of certain waters.

Thus, it is the expressed view of the Oklahoma executive department that Oklahoma law does not allow even the limited degradation authorized by the federal regulation. OWQS § 3, however, suggests a contrary position.

^{31 &}quot;Eutrophication (natural)" is defined:

The normally slow aging process by which a lake evolves into a bog or marsh and ultimately assumes a terrestrial state. During eutrophication the lake becomes so rich in nutritive compounds (especially nitrogen and phosphorus) that algae and other microscopic plant life become superabundant, thereby "choking" the lake, and causing the lake to advance in seral stages.

⁸² The text of OWQS §§ 3 and 5 is included as an appendix to this opinion.

The Oklahoma Attorney General has issued an opinion, however, addressing the question: May the Oklahoma Water Resources Board (OWRB) adopt an antidegradation policy that allows for lower water quality or limited degradation of certain waters? Opinion No. 84-124 (Dec. 28, 1984). The Attorney General acknowledged the federal antidegradation regulation, which provides for lowering water quality in certain limited circumstances, but observed that federal law was meant to set minimum standards. He then set forth the Oklahoma Legislature's intent that state waters were to be classified "for the purpose of progressively improving the quality... and upgrading them from time to time by reclassifying them," Okla.Stat. tit. 82, § 926.6(A), and that it was state policy to "protect, maintain, and improve the quality [of the waters of the state]," id. § 926.2. He concluded:

plain language of the regulations manifests a clear intent to allow no degradation of the water quality of scenic rivers. More specifically, the regulations disallow any additional discharge of pollution (either a new point source or an increase from an existing source) to a scenic river if its water quality has been degraded or if the new source would degrade it.

Closer examination of the language and structure of the Anti-Degradation Policy, guided by the minimum requirements for such policies set forth in EPA's regulation, confirms our plain language construction.³⁴ The Oklahoma regulation allows "no degradation" of water quality in designated scenic rivers. "Limited degradation" is permitted limited only in other "high quality waters" where the existing water quality "exceeds those levels necessary to support propagation of fish, shellfish, wildlife, and recreation." OWQS § 3, para. 2. Even if the Upper Illinois were not a scenic river, it would not be eligible for the limited degradation exception because its waters in their present condition do not qualify as such "high quality waters." See infra part B.2. Clearly, then, the Oklahoma Anti-Degradation Policy prohibits any further degradation of the Illinois scenic river.

We conclude the requirements of the Beneficial Use Limitations/Anti-Degradation Policy are violated when the water quality of a scenic river undergoes any human-caused, detectable change. By "detectable change" we mean any detectable change in a water quality parameter such as turbidity or phosphorus (with the perhaps unnecessary qualification that an improvement in water quality is excepted). We do not mean a detectable change that violates a numeric criterion for that parameter (e.g., 25 NTUs for turbidity), which criterion would otherwise apply if the Beneficial Use Limitations were not applicable (i.e., if the receiving waters were not designated as a scenic river or otherwise as "(a)" in Appendix A). 35

³⁴ EPA regulations mandate that all states adopt and implement an antidegradation policy meeting minimum federal requirements. 40 C.F.R. §§ 131.6(d), 131.12. Oklahoma's policy is very similar to the EPA rule; one difference is that Oklahoma specifies scenic rivers for protection from any degradation. Cf. § 131.12(3). Both the federal and state rules establish three levels of protection for state waters. Under level 1, existing instream water uses must be maintained and protected in all streams. Compare 40 C.F.R. § 131.12(1) with OWQS § 3, para. 1. The Oklahoma rule adds that this level of protection prohibits any "further degradation which would interfere with or become injurious to existing instream water uses" and that "Oklahoma's waters . . . shall be . . . improved." Under level 2, "limited degradation" may be allowed in certain "high quality waters" whose "water quality . . . exceeds those levels necessary to support propagation of fish, shellfish, wildlife, and recreation." Compare OWQS § 3, para. 2 with 40 C.F.R. § 131.12(2). However, the state must first decide, after fully satisfying state planning requirements, that "necessary and justifiable economic or social development" necessitates this degradation. OWQS § 3, para. 2; cf. § 131.12(2). Moreover, in allowing such degradation, the state is required to "assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost effective and reasonable best management practices for non-point source control." § 131.12(2) (emphasis added). (The comparable provision in the Oklahoma rule is not as clear, but under EPA regulations, it must be interpreted at least as stringently.) Finally, level 3 provides for maintaining and protecting certain exceptional, high quality waters (which in Oklahoma includes scenic rivers). Compare OWQS § 3, para. 3 with 40 C.F.R. § 131.12(3). The Oklahoma rule expressly prohibits

any degradation of these waters, the prohibition in EPA's regulation is implicit.

NTUs. If the Upper Illinois River (including Lake Frances is 20 NTUs. If the Upper Illinois River (including Lake Frances) were not designated (a) as well as a scenic river, it would be permissible to allow the lake's turbidity to increase to 25 NTUs, the criterion applicable to "Warm Water Lakes" in OWQS § 4.10(b). (The Illinois scenic river is designated a warm water fishery in Appendix A.) Because the lake is part of a scenic river, however, the Beneficial Use Limitations apply. In conjunction with the Anti-Degradation Policy, it prohibits any human-caused, detectable change in the turbidity conditions extant at the time of the scenic river designation. Thus, if the turbidity of the lake in 1970 did not exceed 15 NTUs, human activities may not cause it to exceed that level.

The Beneficial Use Limitations/Anti-Degradation Policy are designed to provide additional protection beyond that conferred by the numeric limits of other water quality standards. Interpreting these regulations as merely prohibiting violations of otherwise applicable WQS would render them a nullity because, as we have seen, WQS may not be contravened in any waters, regardless of whether these additional regulations apply.

The ALJ on remand, did not explicitly address the Anti-Degradation Policy but did construe the Beneficial Use Limitations. The 1985 version of the Beneficial Use Limitations, which the ALJ deemed applicable, provides: "'All streams and bodies of water designated as (a) . . . are protected by prohibition of any new point source discharge which increases pollutant loading or increased load from an existing point source." Decision on Remand, R., A-33, at 4. Construing this regulation in light of the OWQS definition of "pollution," 36 he concluded: "[T]he Oklahoma parties must show by substantial evidence that the City's discharge will create a nuisance or render the Illinois River in Oklahoma harmful, detremental [sic] or injurious to any beneficial use of the river." Decision on Remand, R., A-33, at 5. The CJO upheld this interpretation with minimal discussion. Second Order on Petitions for Review, R., A-37, at 8. He excused the ALJ's failure to discuss the Anti-Degradadressed the policy in his detailed analysis of the discharge's potential impact on all relevant water quality parameters." *Id.* at 9; *see id.* at 10 (if ALJ erred in this regard, it was "harmless error"). The CJO reasoned that "if the Fayetteville discharge will not cause a detectible change in any of the relevant water quality parameters [as the ALJ found], it logically follows that there will not be a 'quality degradation.' *Id.* at 9-10.

We have considerable difficulty with the agency's treatment of these crucial Oklahoma regulations. First, and most importantly, the ALJ's interpretation defies the plain language of the Beneficial Use Limitations and the Anti-Degradation Policy that it references.³⁷ Secondly,

^{36 &}quot;Pollution" is defined as:

[[]C]ontamination or other alteration of the physical, chemical or biological properties of any natural waters of the state, or such discharge of any liquid, gaseous or solid substance into any waters of the state as will or is likely to create a nuisance or render such waters harmful or detrimental or injurious to public health, safety or welfare, or to . . . legitimate beneficial uses, or to likestock, wild animals, birds, fish or other aquatic life.

Okla.Stat. tit. 82 § 926.1.1., quoted in Decision on Remand at 5. The ALJ consulted the statutory definition of "pollution" because the 1985 version of the Beneficial Use Limitations does not define its term "pollutant loading." See our discussion of this compound error in the text.

³⁷ The ALJ's interpretation of the Beneficial Use Limitations is also inconsistent with an earlier position taken by the EPA with respect to permitting additional discharges in the Illinois River Basin. The record contains a letter, dated Oct. 1, 1986, from Lawrence Edmison, Director, Oklahoma Department of Pollution Control, to Kenton Kirkpatrick, Deputy Director, Water Management Division, EPA-Region 6. Mr. Edmison was writing to confirm a conversation with Mr. Kirkpatrick in which they apparently reached an "understanding that Tahlequah's discharge must not increase loading on the Illinois River." Addendum to R., OK-4 (emphasis in original). The discussion and letter were precipitated by a debate concerning how the Illinois River's (a) designation affected proposed revisions to the effluent limits in the city of Tahlequah's wastewater treatment plant permit, given that the plant is located a short distance upstream from the Illinois on a tributary not designated (a). An earlier memorandum to Mr. Edmison from Quang Pham, an Oklahoma State Department of Health employee, stated that, because Tahelquah was located on a tributary of an (a) stream, "EPA indicated that no load increase could be allowed for Tahlequah." Addendum to R., OK-4 (emphasis added). This memo also referenced a recent EPA study "on eutrophication of Illinois River [that] indicated that phosphorus plays a major role in the stimulation of algae growth in the river." Id. at 2. These documents reflect a significantly different understanding of Oklahoma's Anti-Degradation Policy and Beneficial Use Limitation than that adopted by the ALJ and approved by the CJO in this permit proceeding.

the CJO ruled that the ALJ erred in applying the 1985, rather than the 1982, OWQS. Second Order on Petitions for Review, R., A-37, at 5-6. The CJO deemed this error harmless, but we disagree.38 The 1985 version of the Beneficial Use Limitations, which the ALJ improperly applied, states: "All streams . . . designated as (a) in Appendix A are protected by prohibition of any new point source discharge which increases pollutant loading. . . ." OWQS § 7.11 (1985) (emphasis added), quoted in Decision on Remand, R., A-33, at 4. Finding no definition of "pollutant loading" in the 1985 rule, the ALJ consulted the statutory definition of "pollution," Okla.Stat. tit. 82 § 926.1.1., to construct his interpretation of the regulation. The applicable 1982 rule, however, prohibits simply "any new point source discharge of wastes" (emphasis added). Oklahoma law defines "wastes" as "industrial waste and all other liquid, gaseous or solid substances which may pollute or tend to pollute any waters of the state." § 926.1.2. We do not know whether Oklahoma intended to significantly change the import of the Beneficial Use Limitation by this minor language revision, but we cannot approve a construction of the regulation based on the definition of a term ("pollution") not even contained in the applicable rule.

Finally, the agency's construction of the Beneficial Use Limitation is further flawed by the ALJ's imposition of the burden on Oklahoma to prove that the discharge would "create a nuisance" or "render the Illinois River ... harmful ... or injurious to any beneficial use." Decision on Remand at 5. Granted, the opponent of a permit has the "burden of going forward to present an affirmative case at the conclusion of the Agency case on

the challenged requirement." 40 C.F.R. § 124.85(a) (3) (ii). However, the "Agency has the burden of going forward to present an affirmative case in support of any challenged condition of a final permit," id. § (a) (2), and more importantly, the "permit applicant always bears the burden of persuading the Agency that a permit . . . should be issued and not denied," id. § (a) (1). By requiring Oklahoma to "show by substantial evidence that the City's discharge will create a nuisance," the ALJ improperly transformed Fayetteville's burden of showing the permit should be issued into a burden on Oklahoma to show that it should be denied.

As for the Anti-Degradation Policy, the CJO concluded there could be no violation of the policy if there would be no detectable change in water quality. However, it is not clear whether the CJO interpreted the policy as requiring that there be no detectable change in water quality, or whether he was merely reporting the legal significance of the facts found by the ALJ. Although the CJO determined in his first order that the applicable legal standard is "whether [Fayetteville's] discharges under the permit will result in a detectable violation of the applicable water quality standards," Order on Petitions for Review, R., A-28, at 2, 12-13, his subsequent affirmation of the ALJ's erroneous construction of the Beneficial Use Limitations casts doubt on whether he intended the "no detectable change" test to apply to violations of the Beneficial Use Limitations/Anti-Degradation Policy as well. Because of this ambiguity and the errors in interpreting the Beneficial Use Limitations, we agree with the Oklahoma parties that the agency incorrectly construed and applied both Oklahoma regulations.

2. Existing Degradation of Illinois Scenic River

Under other circumstances, the errors described above might necessitate remanding to the agency with instructions to apply Oklahoma law as we have construed it.

³⁸ The CJO ruled the error harmless because, in his view, the 1985 and 1982 standards do not differ materially. Second Order on Petitions for Review, R., A-37, at 6. However, the CJO did not specifically consider the difference between the two versions of the Beneficial Use Limitation and how that discrepancy may have affected the ALJ's conclusion.

However, given the facts in this record, even proper interpretation and application of Oklahoma water quality standards cannot save this permit. The record contains substantial evidence from which the ALJ could have found that the water quality of the Illinois scenic river has been degraded and that water quality standards were being violated prior to the onset of Fayetteville's discharge to the river (see subpart a. below). We believe that, where a proposed source would discharge effluents that would contribute to conditions currently constituting a violation of applicable water quality standards, such proposed source may not be permitted.³⁰ The ALJ and the CJO erred in failing to consider whether or how the river's existing degraded condition is relevant to the decision whether to permit a new source discharge.⁴⁰

Three factual subissues are essential to our determination that the Fayetteville discharge to the Illinois River may not be permitted: (1) whether the Illinois scenic river is already degraded (i.e., whether its quality has deteriorated since the river's designation in 1970); (2) whether Fayetteville's effluent will reach the scenic river; and (3) whether and how the components of Fayetteville's discharge would contribute to conditions in the Illinois River. Although it is difficult to summarize a record that consists of five boxes and four years of briefs, orders, transcripts, prepared testimony, correspondence, technical reports and miscellaneous other documents, in the following few pages we attempt to capsulize the evidence relevant to these three issues.

a. Evidence of existing degradation. First, we address the subject of the degradation of the Illinois scenic river's historically pristine water quality. Our review of the record before the ALJ revealed ample evidence from which the ALJ could have concluded that the river's condition has deteriorated since its designation as a scenic river and that water quality standards are being violated. Examples of this evidence follow.

Myron Knudson, Director of the Water Management Division, EPA-Region 6, testified at the administrative hearing: "There has [sic] been many conversations as

³⁹ This issue has apparently never before been addressed by a federal court, and it was only touched upon at the administrative hearing. For example, the State of Oklahoma offered evidence (visual slides with accompanying narrative testimony), the stated purpose of which (according to counsel) was to "show that the Illinois River is already in a degraded state and cannot assimilate any more effluent" and that "the Illinois River has already exceeded [its] assimilative capacity." Tr. at 72, 76. An objection to part of this testimony was overruled, Tr. at 76, although the ALJ indicated he had "serious problems with the utility of these slides," id. at 72. Later in the hearing, in response to an objection that EPA official Larry Champagne's testimony concerning the history of the Fayetteville permit issuance process was irrelevant, an Oklahoma attorney argued that testimony was "relevant to . . . the issue of whether or not there is degradation" of the Illinois River. Again, the ALJ expressed doubt, but allowed the testimony. Tr. at 154-55.

⁴⁰ It might be considered surprising that the record contains sufficient evidence from which to infer that Illinois River water quality is already degraded, given that the parties did not recognize the real significance of this issue. We suspect the evidence was offered largely to show the potential for water quality deterioration due to Fayetteville. Because pollutants in the Illinois River at the Arkansas-Oklahoma border (see discussion in subpart b. below) orginate from upstream, i.e., Arkansas, pollution sources, it logically follows that a new Arkansas source (at a distance upstream comparable to that of existing sources) poses a risk of increasing the

pollutant load at the state line. There is considerable evidence that the principal point sources of pollution to the Upper Illinois River above Lake Frances are the municipal wastewater treatment plants at Rogers and Springdale, Arkansas. E.g., Gakstatter & Katko, An Intensive Survey of the Illinois River (Arkansas and Oklahoma) in August 1985 ("Gakstatter Report"), Addendum to Oklahoma Brief, at 3, 5, 77; Tr. at 360-61. The Rogers and Springdale plants are 41.5 and 39.5 miles, respectively, upstream from the state line at Lake Frances. Gakstatter Report at 11-13. These distances are nearly identical to Fayetteville's distance (39 miles) from that point. At least on the basis of distance, it is not unreasonable to except that Fayetteville's effluent will also reach the Oklahoma portion of the Illinois River.

related to what could be done in order to clean up the Illinois River." Tr. at 221. The Attorney General of Oklahoma Robert Henry, in a prepared statement delivered at the hearing, described the Illinois River as "degraded," Tr. at 232, and stated that "the river cannot handle the existing load" of municipal wastewater treatment plant discharges, Tr. at 233. Dr. Stephen Threlkeld, witness for the Oklahoma Wildlife Federation and author of the EPA-funded "Clean Lakes" report on Lake Frances, summarized the results of the "Clean Lakes" study, stating: "Water quality violations of the Oklahoma Water Quality Standards in Lake Frances... are in terms of bacteria and in terms of turbidity...." Tr.

The 1972 act recognized the urgent need for a lake improvement program to restore the significant number of the Nation's 95,000 freshwater lakes that were in eutrophic and deteriorated conditions. The clean lakes program was conceived to respond to this problem

In the 5 years since Public Law 92-500 went into effect, lake restoration programs essentially have not even begun

The committee hearing record clearly demonstrates that there is a great interest in lake areas in the restoration and preservation of degraded freshwater lakes

at 356. He explained that EPA funded the study "because they wanted to know what the problems were in Lake Frances." Tr. at 359; see id. at 374.

Mike Schornick, Oklahoma witness and principal of Schornick/Roberts & Associates, consulting engineers, testified that significant degradation trends are and have been occurring in the Illinois scenic river, including Lake Frances. Tr. at 398-400 (citing prefiled testimony, R., OK-2, at 3-4). He stated that certain figures in his prefiled testimony, which reflect data obtained from regular water quality monitoring conducted by Oklahoma at several points along the Illinois River, illustrate the degradation trends. Tr. at 414, 439. He claimed dissolved oxygen concentrations are reaching levels that violate OWQS. OK-2 at 4. He also stated that Arkansas and Oklahoma monitor phosphorus in their regular 305(b) trend analysis reports 42 to EPA, Tr. at 486, and that all of those reports (1976-81 and 1984) show increasing phosphorus concentrations, Tr. at 489-90. Accounting for the addition of Fayetteville's effluent, Schornick said phosphorus loading and concentrations in Lake Frances will have increased by 106 percent and 76 percent, respectively, over 1974-75 background levels. Tr. at 454-56 (citing prefiled testimony, OK-2, at 4).

Lawrence Edmison, Director, Oklahoma Department of Pollution Control, testified that his department has received "many complaints about odor problems and color problems on the river." Tr. at 542. He also discussed the algae problem on the river in relation to the increasing phosphorus concentrations and decreasing nitrogen concentrations in the water. Tr. at 533-34 (citing prefiled testimony, OK-4, at 3). Based on his years of personal observation of the river and experience handling citizen complaints and looking at trends documented in

⁴¹ The so-called "Clean Lakes" reports are prepared by states pursuant to the requirement therefor in section 314 of the Act, 33 U.S.C. § 1324. Subparagraph (a) (1) of the statute specifically requires that lakes be classified according to "eutrophic condition." The remarks in the Senate Report concerning reauthorization of this section in 1977 are of considerable interest:

^{. . .} The committee believes this authorization represents a level of effort that reflects the expectations of the Congress for this program, recognizing that the problem of lake eutrophication and deterioration nationwide far exceeds even this authorization level.

The committee is hopeful that the new administration will act to make lake restoration a key element of the EPA's water pollution control program contrary to the EPA's implementation of this section to date.

S.Rep. No. 379 at 69-70, reprinted in 1977 U.S.Code Cong. & Admin. News at 4394-95.

⁴² Section 305(b) of the Clean Water Act, 33 U.S.C. § 1315(b), requires the states to submit to Congress biennial reports on the condition and quality of their surface waters.

305(b) reports and other reports, Tr. at 546-48, he stated, "I know how bad the river is now; I anticipate that any increased load will only make it worse." Tr. at 548. He testified that the 305(b) reports for both 1984 and 1986 related an "apparent increasing trend" in phosphorus concentrations at all four Illinois River sampling sites, an "apparent decreasing trend" in dissolved oxygen at the same sites (with the exception of the Baron Fork site in 1986), and an "apparent decreasing trend" in nitrogen levels at all four sites (with the exception of Tahlequah in 1986). OK-4, at 2-3. Decreasing nitrogen and increasing phosphorus, he claimed, are "indicative of the algae problem on the river." OK-4, at 2-3.

Oklahoma witness and consultant Dr. William Walker reported that algae concentrations in Lake Frances already reach 90 parts per billion, which is three times the level typically considered indicative of severe nuisance conditions. Tr. at 609-10. Lake Frances is already "supersaturated with nutrients," Tr. at 691; for example, existing concentrations of phosphorus in Lake Frances are more than ten times levels considered typical of eutrophic lakes, or where algae problems start to develop, Tr. at 701. According to Dr. Walker, a "plume [of] degraded water" exists in the river downstream from Lake Frances. Tr. at 701.

Jimmie Pigg, part-time ichthyologist with the Oklahoma Water Quality Division and science coordinator for an Oklahoma school district, Tr. at 65, narrated a slide presentation at the administrative hearing showing changes in the condition of the Upper Illinois River since 1972. In response to an objection concerning the relevance of part of the testimony, counsel for the State of Oklahoma stated that the evidence was offered for the purposes of "show[ing] that the Illinois River is already in a degraded state and cannot assimilate any more effluent" and that "the Illinois River has already exceeded

[its] assimilative capacity." Tr. at 72, 76.48 Mr. Pigg said Lake Frances "is really a sewage lagoon," which "catch[es] and hold[s] the material from Arkansas." Tr. at 73.

The Gakstatter study reported that "dense phytoplankton populations develop in Lake Frances and also adversely affect water clarity in the Illinois River for several miles downstream," and that this growth is "stimulated by excessively high phosphorus levels originating from [the sewage treatment plants at] Springdale and Rogers [in Arkansas]." Report at 5." The Gakstatter Report also

⁴³ An Arkansas party attorney objected to the relevance of certain slides, which showed Sager and Flint creeks (both Illinois River tributaries) below Siloam Springs, Arkansas's, treatment plant. In defending against the objection, the Oklahoma attorney stated that the slides were "relevant to show that Fayetteville should not be allowed to discharge because it will just exacerbate the existing violation of Oklahoma Water Quality Standards." Tr. at 76. The objection was overruled, id., although the ALJ indicated he had "serious problems with the utility of these slides," id. at 72. Mr. Pigg testified to 30 years of personal experience with the Illinois River, including making "collecting trips" and preparing "hundreds of reports" on changes in the fish population. Id. at 65, 86. He was denied the opportunity to offer an opinion, based on his experience with the river, as to whether algae in the river had increased during those 30 years, apparently on the ground that he had not been qualified as an expert. Id. at 86-87.

⁴⁴ It should be noted that the Gakstatter study, on which the ALJ relied, see Decision on Remand, R., A-33, at 10-11, 14-15, was conducted during a two-week period of very atypical weather in August 1985. Precipitation for that month was more than three times the normal amount, streamflow was 50% greater than the normal average, and three inches of rain fell during the survey. Gakstatter Report at 1, 23. Throughout the report the authors conceded several possible effects of these conditions—increased turbidity due to increased surface runoff and scouring of stream sediments, decreased concentrations of chemical parameters due to dilution, and decreased incidence of periphytons (surface algae)

use of high stream flow. Moreover, even though the ALJ relied for evidence that the Fayetteville discharge would not affect the Illinois River, the Gakstatter study supports our conclusions

provides brief summaries of the results of several other studies. For example, the U.S. Geological Survey (USGS) in 1984 reported the Illinois River did not meet water quality standards for dissolved oxygen, phosphorus, and fecal coliform bacteria; Threlkeld (1983) described Lake Frances as "very euthrophic" due to phosphorus from Springdale and Rogers; the Oklahoma State Water Quality Laboratory (1977) reported Lake Frances was in the "late stages of eutrophication," due partially to "elevated Illinois River nutrients"; and two EPA (1977) studies classified as eutrophic both Lake Frances and, to a lesser extent, Tenkiller Reservoir. Gakstatter Report at 7-9.

The evidence before the ALJ also included the record of a hearing conducted by the Arkansas-Oklahoma Arkansas River Compact Commission on June 3-4, 1985. See R., C-1, Tr. at 307. The subject of the Compact Commission hearing was the Illinois River situation and the (at that time) proposed Fayetteville permit. The Commission issued an order (also included in the administrative hearing record) containing several findings concerning the degraded condition of the river. Findings of Fact, Conclusions of Law, and Commission Order ("Compact Commission Order"), R., OK-5. The Commission began by observing that, historically, the Illinois River "has been recognized by Oklahomans as a watercourse of unique natural scenic beauty and high quality . . . spring-fed waters [that] ran clear and plentiful." ¶ 16. But, the Commission continued, the "Upper Illinois River System in Oklahoma has, in recent years, undergone a process of degradation in water quality, and the process appears to be on an escalating trend." ¶ 32.

Other findings by the Commission include: "[T]he Illinois River has degraded substantially over the past decade . . . [including] radical changes in the river's

water color and turbidity, and the existence of increased alga growth [and] offensive odors. . . . " ¶ 33. Violations of the dissolved oxygen standard have been documented by the Oklahoma Department of Health immediately below Lake Frances. ¶ 35. Degradation of dissolved oxygen is also occurring farther downstream from Lake Frances. ¶ 36. A 1984 USGS study (presumably the one cited in the Gakstatter Report) showed violations of Arkansas WQS in the Arkansas portion of the river. ¶ 38. Phosphorus concentrations are continuing to increase in "significant and undesirable amounts." ¶ 40. The "Arkansas guideline for maximum phosphorus concentration to prevent eutrophication has already been greatly exceeded in certain Arkansas and Oklahoma river segments." ¶ 40. The "trend of phosphorus degradation of the Upper Illinois River appears to be occurring at all locations." ¶ 41. Lake Frances is in "an obvious state of eutrophication, marked by putrid smells and dark brown turbid waters." ¶ 45. Based on Oklahoma's 305(b) report for 1978-83, "[d]egradation trends also appear to be occurring with reference to levels of potassium, calcium, sodium, copper and hardness." ¶ 46. The Commission acknowledged Arkansas's "exceptions" to certain of Oklahoma's sampling methods and conclusions, ¶¶ 47-48, but decided Oklahoma's methods were generally accepted in the scientific community and sanctioned by EPA, ¶ 49. The Compact Commission concluded: "[M]an-made pollution (degradation) of the waters of the Upper Illinois River in both Arkansas and Oklahoma . . . as defined by the compact, [has] occurred and said pollution continues to occur at increasing and alarming rates. . . Further, said pollution is of grave interstate magnitude and significance." Conclusions of Law ¶ 9.

The record before the agency also included the Fayetteville 201 Facilities Plan, prepared by Fayetteville in conjunction with its application for an EPA construction grant for its new treatment plant. See 40 C.F.R.

concerning the existing degradation of the river and the fact that Fayetteville's effluent will be carried downstream to the Illinois River in Oklahoma.

§ 35.2030(b)(3) (specifying the requirements for such plans). The plan states that "nutrient loadings from non-point sources and existing discharges do adversely impact the Illinois under present conditions." CH2M Hill & McClellant Consulting Engrs., Inc., 201 Facilities Plan Environmental Information Document for City of Fayetteville, Arkansas (Jan. 1984), R., ARK-6, at 2-20. The plan also states that the "net impact of point and nonpoint sources is to increase nutrient loading, with consequent increases in algal growth and increased turbidity." Id. at 2-22. The plan described the biological community in the reach of the river near and below Lake Frances as "slightly degraded." Id. at 2-24. The Illinois River Assessment Report, also in evidence, declares as one of its "alarming" conclusions: "Overwhelming existing documentation demonstrates that significant degradation of the Upper Illinois River has already occurred." Roberts/Schornick & Assocs., Illinois River Assessment Report (Dec. 1984), R., ARK-6, at ii.

At this juncture we note that the absence of any evidence in the record that enforcement efforts have been undertaken to remedy the pollution problems in the Illinois River does not undermine our conclusion that water quality violations have occurred and no doubt continue to occur. Enforcement actions are not necessary to document water quality degradation; it is only necessary that there be reliable evidence that water quality criteria have been exceeded. See 33 U.S.C. § 1319(a) (1) ("When-

ever, on the basis of any information available to him, the Administrator finds that any person is in violation of any condition . . . in a permit . . . he shall [commence enforcement proceedings]" (emphasis added)). Such evidence may be found in the dischargers' own monitoring reports, see 40 C.F.R. § 122.41(j); the states' obligatory 305(b) or 205(j) (33 U.S.C. § 1285(j)) reports; or other studies or surveys conducted according to accepted methods.46

be reversed rapidly), the eutrophied state of the Illinois River almost certainly persists and perhaps has worsened since the date of the most recent evidence of degradation in the record. We believe there is substantial evidence in the record to support this conclusion. Cf. Chesapeake Bay Found. v. Gwaltney of Smithfield, Ltd., 890 F.2d 690, 693-95 (4th Cir.1989).

We also point out that this case is easily distinguished from a situation in which a presumption of ongoing violations (for purposes of taking enforcement action) is premised on past violations of technology-based effluent limitations (for instance, failures of control equipment). E.g., Sierra Club v. Shell Oil Co., 817 F.2d 1169 (5th Cir.), cert. denied, 484 U.S. 985, 108 S.Ct. 501, 98 L.Ed.2d 500 (1987). It is admittedly unreasonable to assume, on the basis of "past, sporadic or largely unconnected permit violations," that a permittee is currently violating the effluent restrictions of his permit. 817 F.2d at 1173. But it is highly probable that water quality violations (e.g., eutrophication effects) that result from the cumulative impacts of the ongoing discharges of several sources will continue as long as the discharges continue. This case is an example of such a situation.

Finally, we note that, even if the Illinois River's water quality has improved since the Fayetteville permit was erroneously granted (the record contains no evidence tending to suggest this), under the Oklahoma Anti-Degradation Policy no degradation of that improved quality may be allowed. OWQS § 3, para. 4.

⁴⁶ Section 106(e) of the Act, 33 U.S.C. § 1256(e), requires states to conduct water quality monitoring "including classification according to eutrophic condition" and to annually update monitoring data and include the data in 305(b) reports in order to qualify for federal grants for pollution control programs. According to EPA, the 305(b) report is the "primary water quality problem assessment document under the Act." 50 Fed.Reg. 1774, —— (1985) (WL pp. 22-23 of 57) (preamble to final rule, 40 C.F.R. Parts 355 and 130;

⁴⁵ Additionally, in the circumstances of this case, evidence that such exceedances are ongoing may be required. See Gwaltney of Smithfield, Ltd. v. Chesapeake Bay Found., Inc., 484 U.S. 49, 57-59, 108 S.Ct. 376, 381-82, 98 L.Ed.2d 306 (1987) (EPA may take enforcement action against a discharger for wholly past violations of permit conditions, but a citizen suit to enforce permit conditions must be based on evidence of ongoing violations). Where a decision to deny a permit is based in part on a finding that the water quality of the receiving waters is degraded, it is reasonable to require evidence of the continuing nature of the WQS violations. Because eutrophication is not a rapid process (nor can the process

Similarly, a history of lax enforcement with respect to existing sources does not justify allowing a new source of pollution. Water quality standards prescribe the desired condition of surface waters to be met at all applicable times; they do not serve merely as a yardstick for enforcement efforts when enforcement personnel may be available to ascertain compliance.

Clearly then, the record before the ALJ contains substantial evidence from which it can be concluded that water quality in the Upper Illinois River is degraded and that Oklahoma water quality standards for nutrients, dissolved oxygen, and/or aesthetics have been and probably continue to be violated. The decisions of EPA's judicial officers ignore the bulk of this evidence. To our consternation, however, the ALJ believed some of the relevant testimony chronicled above, yet remained oblivious to its ramifications. In his Decision on Remard, for example, the ALJ stated that "dissolved oxygen violations in Oklahoma are occurring without [Fayetteville's] discharge." R., A-33, at 19 (emphasis added). It also appears he accepted the testimony that nutrients, turbidity, and solids standards were being violated, although he disputed the conclusion that Fayetteville "would increase the spatial and temporal . . . frequencies" of those violations. Id. at 14-15 (citing Dr. Walker's and Dr. Gakstatter's testimony). Significantly, no witness refuted the testimony concerning the river's currently degraded condition, nor did the ALJ discredit (or even comment on) any of that testimony. He simply failed to recognize the significance of this testimony with respect to the permitting decision at hand.

b. Downstream transport of pollution from Fayette-ville. Next, we address the question of the downstream migration of Fayetteville's effluent. Our review of the transcript revealed that no person involved in the administrative hearing seriously disputed that pollution from Fayetteville would reach the state line; instead, the parties debated how much would reach Oklahoma and what effect, if any, it would have. Indeed, in his final opinion, the ALJ recites evidence that twenty to twenty-five percent of the nutrients (specifically, phosphorus) in Fayetteville's effluent would be "bio-available" at the Oklahoma state line. Decision on Remand, R., A-33, at 8. The evidence supporting downstream transport includes:

According to EPA witness and employee Garrett Bondy, the Waste Load Allocation Study performed by Arkansas predicts a six-percent increase in the phosphorous load to Lake Frances due to Favetteville. Tr. at 147. Fayetteville witness Dr. Cliff Thompson testified to a 2.4-percent increase, based on a discharge of 35 lb. phosphorus per day. Tr. at 280-81. (Fayetteville's permit allows it to discharge 54 lb. phosphorus daily.) Thompson, whose firm CH2M Hill prepared the 201 Facilities Plan for the Fayetteville plant, said: "We recognized that we would be adding discharge to the Illinois River." Tr. at 266-67. Dr. Robert Blanz, former deputy director of the Arkansas Department of Pollution Control and Ecology, testified that Fayetteville's waste could reach Lake Frances, the Illinois River below the lake, and Tenkiller Reservoir. Tr. at 308-11, 321-22. He "guessed" twenty to twenty-five percent of the phosphorus from the plant would be cycled through the Upper Illinois River system rather than taken out of it. Tr. at 311-12; cf. Decision on Remand at 8.

^{§ 130.8(}b)); see also 40 C.F.R. § 130.8(a) ("report serves as the primary assessment of State water quality"). EPA's regulations state that problems identified in the 305(b) report "should be emphasized . . . in the State's [water quality management plan] . . . under sections 106 and 205(j) of the [CWA]." 40 C.F.R. § 130.8(a). In years in which a 305(b) report is not required, states may meet their annual 205(j) report requirement by supplementing the most recent 305(b) report with a certification that it still represents current conditions, or by updating it as necessary to reflect current conditions. 40 C.F.R. § 130.8(d); see also 50 Fed. Reg. 1774, — (1985) (WL p. 23 of 57).

Mike Schornick, testifying for Oklahoma, suggested that sixty percent of Fayetteville's phosphorus discharge would reach Lake Frances (based on his review of existing data). Tr. at 454-56 (citing prefiled testimony, R., OK-2, at 4). He stated that treatment plant operation would result in measurable changes in Lake Frances during low flow conditions. Tr. at 461-62. Another Oklahoma witness, Dr. Walker, testified that Fayetteville would increase the phosphorus load to Lake Frances by 4.69 percent in an average flow year. Tr. at 610-11 (referring to amended Table 5 in his prefiled testimony, R., OK-9).

The Arkansas River Compact Commission found that Lake Frances no longer acts as a "nutrient trap"; thus, the "addition of any new waste effluent discharge into the Illinois River from above Lake Frances . . . will be transmitted downstream below Lake Frances into the Illinois River in Oklahoma." Compact Commission Order, R., OK-5, Findings ¶ 44. The Commission further stated that "the potential for or threat of an increased phosphorus loading . . . from [Fayetteville's] discharge to the Illinois River in Oklahoma clearly exists." *Id.* ¶ 73.

Finally, the 201 Facilities Plan reports "considerable downstream transport of enriched organic matter" in the Upper Illinois River. R., ARK-6, at 2-22. Citing the Oklahoma State Department of Health's conclusion that "nearly 60 percent of the nitrogen and 74.4 percent of the phosphorus load measured in the Illinois River at Tahlequah, Oklahoma was [sic] contributed by sources above Lake Frances," the report concludes the "data clearly show that point and nonpoint sources in Arkansas are a major source of nutrients in the Illinois River of Oklahoma." Id. at 2-24. The report states that additional nutrients introduced to Lake Frances "may be passed through [the lake] to downstream reaches of the Illinois," id., and that "transport of dissolved and suspended nutrients from Arkansas sections of the Illinois basin may have some effects on Tenkiller Reservoir in Oklahoma,"

id. at 2-28. "Fayetteville's treated effluent," the report claims, "would increase downstream nutrient concentrations by . . . perhaps 10-15 percent . . . during low-flow conditions." Id. at 4-13.

Based on the foregoing, which is just a sample of the record evidence pertaining to the downstream transport of Fayetteville's effluent, we conclude there was substantial evidence before the ALJ to support a finding that Fayetteville's effluent would reach the Illinois scenic river.

c. Significance of Fayetteville effluent to existing conditions. Lastly, we recite some of the evidence relevant to the third important subissue—whether and how the components of Fayetteville's discharge can be expected to contribute to water quality conditions in the Illinois River. Although this is more a scientific question than it is a legal one, the inquiry helps to tie together the conclusions drawn from the first and second subissues discussed above. The evidence includes:

Mike Schornick asserted that Fayetteville's effluent will result in increased algae in Lake Frances. Tr. at 434-35 (citing prefiled testimony, OK-2, at 15). He discussed the relation between phosphorus and nutrient loading and dissolved oxygen levels, Tr. at 436, offering a brief explanation of how algae can increase and decrease the concentration of oxygen in water, Tr. at 438.47 He noted that

that photosynthesis by algae produces oxygen, but obviously did not understand that respiration by algae at night consumes oxygen, as does the process of decay of organic materials in the stream. See Decision on Remand, R., A-33, at 19 (misciting the eminently qualified Dr. Walker, see R., OK-7, regarding the mechanisms by which dissolved oxygen levels are reduced, see R., OK-8, at 12-13). See also Tr. at 129 (EPA witness Bondy's testimony concerning sediment oxygen demand).

The fact that algae reduce oxygen concentrations in streams (in addition to causing other problems) is recognized by Congress and EPA and has been widely acknowledged in the case law. See, e.g.,

increased algae can result in many aesthetic problems, including taste, odor, and the appearance of a river. Tr. at 477-78. He reported that the decreasing dissolved oxy-

Chemical Mfrs. Ass'n v. U.S. EPA, 870 F.2d 177, 218 & n. 149 (5th Cir.1989) (Congress in amending the CWA "specifically recognized that algae are a significant cause of water quality problems," i.e., that "'algae [have] grown so rapidly that sufficient oxygen is not available to support other forms of life.'" (quoting legislative history)). In Montgomery Envtl. Coalition v. Costle, 646 F.2d 568, 575 (D.C.Cir.1980), a case repeatedly cited to the ALJ by the Oklahoma parties, the court described the same problem facing the Illinois River: "Excessive nutrient levels degrade water quality both because the proliferation of algae is itself a nuisance and because algae respiration and subsequent death and decay use up oxygen dissolved in the river's waters." (Emphasis added.)

Nevertheless, relying on evidence submitted by the Arkansas parties that Fayetteville's effluent would experience "complete oxygen recovery" before it enters the Illinois River, the ALJ concluded that "it is not possible for the City's effluent to violate the Oklahoma dissolved oxygen standards." See Decision on Remand at 18-19. The "re-aeration" described by the Arkansas parties occurs as a result of turbulence in Mud Creek and possibly Clear Creek above Clear Creek's confluence with the Illinois. This essentially mechanical process takes no account of nutrients in the effluent and their impact on algae growth and, eventually, oxygen levels.

The ALJ also labored under apparent misapprehensions concerning the significance of phosphorus concentrations in the river and the relation between phosphorus assimilation and eutrophication. For example, the ALJ stated: "[T]he assimilative processes [at low flows is at its [sic] most effective stage and therefore removes [sic] more nutrients upon which the algae feed. . . ." Decision on Remand at 8. The glaring error of this statement is that the uptake of nutrients by algae is itself one of the "assimilative processes" that is "most effective" at low flows. Uptake of phosphorus by algae does not reduce the potential for eutrophication, it is an intial step of the process! The ALJ also cited testimony that "all of the phosphorus below Lake Francis [sic] would be assimilated out of the time it reached Lake Tenkiller." Decision on Remand at 10. The flaws in this statement are: (1) it presumes the nutrients standard does not apply to streams (which we have seen is contrary to Oklahoma law), and (2) it ignores the fact that one of the processes by which phosphorus "assimilates out" (i.e., which cause gen trends in the Upper Illinois have paralleled increases in phosphorus and other nutrients, calling this "strong evidence that there is a definite relationship between the two phenomena," as well as a logical consequence of increased biological activity. OK-2, at 4. In his opinion, the Fayetteville discharge will "precipitate lower dissolved

phosphorus concentrations in the water to decrease) is uptake by algae, which leads to eutrophication.

The ALJ's erroneous conclusions may derive at least in part from the inconsistent definitions of the term "assimilation" used by various witnesses. See, e.g., Tr. at 308-09, 319, 491, 697. ("Assimilation" in this context essentially refers to the uptake and removal mechanisms by which nutrients are taken out of the water-uptake by plants and animals, animals feeding on plants, sedimentation, etc. The witnesses disagreed, for example, as to whether assimilation includes dilution.) But the fault is not entirely the witnesses'. As explained above, the ALJ overlooked or misunderstood evidence of fundamental biological processes. He also confused "assimilation" with "assimilative capacity." Ostensibly defining "assimilation," he quoted the 1985 OWQS Appendix C definition of "assimilative capacity" (the "amount of pollution a stream can receive and still maintain the W.Q.S. designated for that stream"). Decision on Remand at 7. Yet the two terms are not interchangeable, nor did the ALJ even acknowledge the existence of two discrete terms. Moreover, as we discuss later in the text, the CJO later determined that the 1982, not the 1985, OWQS are applicable to this permit. (The 1982 definition of "assimilative capacity" varies somewhat from the 1985 definition.) It should be noted that the "assimilative capacity" of streams protected by the Beneficial Use Limitation may be very limited (given that any detectable change in a water quality parameter violates the applicable WQS for such a stream). Moreover, the term may have limited relevance to the Upper Illinois River, given that existing water quality problems in the Illinois River demonstrate that the "assimilative capacity" of the stream has already been surpassed.

These are grave misunderstandings because the phenomena of oxygen depletion, which results from "over-fertilization" of a stream and the consequent increase in organic matter, and phosphorus uptake by aquatic organisms, are intrinsic to the eutrophication process. That the ALJ did not comprehend these fundamental concepts casts doubt on his conclusions that Fayetteville's discharge would not jeopardize compliance with the applicable WQS.

oxygen concentrations and more frequent violations of the dissolved oxygen standards." *Id.* at 5. He also contends Fayetteville will cause violations of the copper standard. *Id.*

Robert Blanz, testifying for Arkansas, stated that "scouring" (the action of high stream flows moving sediment on the stream bottom and along its banks) resuspends sedimented material, including algae, thus increasing turbidity. Tr. at 322. EPA official Garrett Bondy testified that the Fayetteville discharge "may raise" sediment oxygen demand, thus potentially contributing to reduced dissolved oxygen concentrations in the river. Tr. at 129; see also id. at 133, 135. Dr. Threlkeld stated that "algal growth and resuspension of sediments are a part of turbidity [in Lake Frances]." Tr. at 356.

Dr. Walker agreed that one cause of water clarity problems in Lake Frances is algae. (The other is inorganic turbidity.) Tr. at 680-81 (citing Gakstatter Report; see id. at 78). He believes the increase in nitrogen pollution of the Illinois River attributable to Fayetteville's discharge might increase the amounts of periphyton (surface algae) in backwater areas and under low flow conditions. Tr. at 693. He further believes these impacts would become more significant as the phosphorus discharges from upstream sources decrease. Tr. at 694, 716-18.48 In Dr.

Walker's opinion, an increased growth of periphyton (i.e., more floating algal "mats and scums on the river) would violate Oklahoma's aesthetics standard. Tr. at 705. He further asserted that Fayetteville's discharge would increase turbidity in Tenkiller Reservoir. Tr. at 711.

Lawrence Edmison, director of Oklahoma Department of Pollution Control, testified that algae degrades the river and violates the aesthetics and coloration standards. OK-4, at 3. He related the algae problem in the river to increasing phosphorus and decreasing nitrogen concentrations in the water. Tr. at 533-34 (citing prefiled testimony, OK-4, at 3). The record also includes a memorandum to Lawrence Edmison from Quang Pham, an Oklahoma State Department of Health employee, which references a recent EPA study "on eutrophication of the Illinois River [that] indicated that phosphorus plays a major role in the stimulation of algae growth in the river." Addendum to OK-4, at 2. Gakstatter and Katko concluded tentatively that "controlling algal growth in Lake Frances will result in a marked improvement in water clarity in the reservoir and in the Illinois River reach below the dam." Gakstatter Report at 76. Finally, the 201 Facilities Plan reports that the "high productivity of the Illinois [River] waters causes considerable downstream transport of enriched organic matter" and the "net impact of point and nonpoint sources [such as Fayetteville] is to increase nutrient loading, with consequent increases in algal growth and increased turbidity." ARK-6, at 2-22.

We conclude from the foregoing three-part review of the record that there is substantial evidence that degraded

⁴⁸ There was testimony at the hearing that future reductions are expected in the phosphorus discharges of three existing municipal treatment plants in the Upper Illinois basin. (In fact, Oklahoma asserts that it was error for EPA to consider these anticipated reductions in deciding whether to grant the Fayetteville permit. Oklahoma Brief at 18-22.) These reductions would result from the installation of new treatment facilities, but would not be mandated by the plants' permits. Phosphorus concentrations in the effluent from the new plants would be approximately 1 milligram per liter (mg/l, or about 50 percent less than previous concentrations. Initial Decision, R., A-26, at 13; R., ARK-1, at 2, 4-5. Dr. Walker testified that, even if all point sources in the basin were

controlled to the 1 mg/l level, the phosphorus load to Lake Tenkiller would be reduced by only 40 percent, and that a phosphorus concentration of 1 mg/l is about forty times the concentration sufficient to produce a significant algal bloom. Tr. at 648-49; see also Prefiled testimony of Jack Gakstatter, R., B-56, at 4 (impact of existing plants "could be substantially attenuated by phosphorus removal . . . to at least . . . 1 mg/l"; "benefits to Lake Frances of reducing phosphorus to at least 1 mg/l" (emphasis added)).

water quality conditions currently exist in the Illinois River in Oklahoma and that these conditions have been caused at least in part by pollutants that are constituents of Fayetteville's effluent. There is also substantial evidence that Fayetteville's effluent will be transported downstream to Oklahoma; thus, the plant can be expected to contribute to the ongoing deterioration of the scenic river and possibly Tenkiller Reservoir as well. It is our inescapable conclusion, given this evidence and the requisites of federal-Oklahoma state water pollution control laws, that the Fayetteville discharge to the Illinois River may not be permitted.⁴⁹

To understand this distinction, it is crucial to review how the Clean Water Act and EPA's implementing regulations allocate the burden of proof in NPDES permitting decisions. Recall that the "permit applicant always bears the burden of persuading the Agency that a permit authorizing pollutants [to] be discharged should be issued and not denied and this burden does not shift." Initial Decision, R. A-26, at 10 (quoting 40 C.F.R. § 124.85(a)(1)). In other words, it is the proponent of a permit who bears the burden of showing that a discharge will comply with all applicable standards, not the opponent of a permit who must show that a discharge will violate applicable requirements.

Moreover, EPA's decision to issue a permit (which decision necessarily reflects its judgment that the permit assures compliance with all applicable requirements of the CWA) must be supported by substantial evidence. 5 U.S.C. § 706(2)(E). Denial of a permit,

IV. Discussion and Conclusions

As explained in part I. of this opinion (Standard of Review), we normally give considerable deference to an agency's interpretation of its obligations and authority under a statute it administers. Here, EPA's view that no discharge to a navigable water may be permitted unless it will comply with the federally approved standards of all affected downstream states is consistent with the statutory language and EPA's implementing regulations, supported by the legislative history, and reasonable on its face; therefore, it is entitled to substantial deference. See Chevron, 467 U.S. at 844-45, 104 S.Ct. at 2782-83. As we discussed in part III.A. supra, we adopt the agency's view on this question of statutory interpretation as our first holding in this case.

The balance of the agency's actions, however, do not warrant similar respect. In part III.B. we have identified several errors or deficiencies in EPA's interpretation of the applicable Oklahoma regulations, in the agency's factual findings, and in its application of the law to the relevant facts. We believe the most serious of these errors is the failure to attribute any significance to the existing

⁴⁹ Issuance of Fayetteville's permit requires substantial evidence (1) that current water quality meets applicable WQS and that Fayetteville's effluent would not affect maintenance of the applicable WQS; or (2) if current water quality does not meet applicable WQS, that Fayetteville's effluent would not reach the Illinois scenic river. Instead of directly addressing whether the record contains this requisite documentation, we have marshalled the opposing evidence and concluded that there is substantial evidence that the Illinois River is degraded and that Fayetteville's effluent will reach the state line. These conclusions negate the need for conducting the usual substantial-evidence inquiry. However, we do not suggest by this approach that the opponent of a permit bears the burden of making the showings that our examination of the record has revealed.

on the other hand, need not be supported by substantial evidence, because of the CWA's fundamental premise that pollution is unlawful and EPA's discretion to issue permits under 33 U.S.C. § 1342(a). In this case the ALJ erred in imposing the burden on the permit opponents to show that water quality standards would be violated. For example, he required the Oklahoma parties to "show by substantial evidence that the City's discharge will create a nuisance," Decision on Remand at 5, and he cited the "lack of substantial evidence to support the notion that the small increases in phosphorus . . . would result in an increase in eutrophication," id. at 8. Ironically, the record does contain substantial evidence showing that the discharge would violate CWA requirements. This evidence is more than sufficient to meet the permit opponent's burden of "going forward to present an affirmative case," 40 C.F.R. § 124.85(a) (3) (ii), and it reinforces our conclusion that the Fayetteville permit may not issue.

WQS violations. In this section we discuss the errors on which we found our conclusion that the Fayetteville permit decision must be set aside as "arbitrary, capricious, . . . or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A).

As a preliminary matter, EPA undermined our usual deference to its special expertise by the failure of its presiding officer to consider an important scientific principle, the oxygen-reducing effects of algae respiration and decay, and by his incomplete understanding of phosphorus assimilation.50 "EPA's failure to base its position on scientific or policy considerations . . . [is] cause for reduced deference." National Wildlife Fed'n v. Gorsuch, 693 F.2d 156, 169 (D.C.Cir.1982). Similarly, a lack of thoroughness on the part of the agency warrants reduced deference. Id. at 166 (" 'thoroughness . . . of an agency's reasoning' bears on the proper degree of deference" (quoting Federal Election Comm'n v. Democratic Senatorial Campaign Comm., 454 U.S. 27, 37, 102 S.Ct. 38, 44, 70 L.Ed.2d 23 (1981)). In light of other errors in the agency's reasoning, however, we need not decide whether these flaws alone constitute reversible error.

EPA also misinterpreted and misapplied the Oklahoma nutrients standard and the Beneficial Use Limitations/Anti-Degradation Policy. In these respects the permit decision is flawed as a matter of law and must be set aside. 5 U.S.C. § 706(2)(A).

Furthermore, the agency's judicial officers believed expert testimony that nutrients in Fayetteville's discharge would be transported downstream to Oklahoma, but they inexplicably rejected or discounted testimony concerning the probable eutrophying effects of these nutrients. This error may have resulted in part from the officers' faulty understanding of eutrophication processes and/or their erroneous interpretation of the nutrients standard. In any

event, the net result is that the agency's decision to permit the Fayetteville discharge to the Illinois River "runs counter to the evidence before the agency" and lacks a 'satisfactory explanation . . . including a rational connection between the facts found and the choice made." Motor Vehicle Mfrs. Ass'n, 463 U.S. at 43, 103 S.Ct. at 2856 (citation omitted). As such, it is arbitrary and capricious and must be set aside. Id.

Finally, we hold that EPA's decision is arbitrary and capricious on one significant additional ground. We believe that EPA, in failing to consider the significance of the evidence of ongoing WQS violations, has not only rendered a decision that "runs counter to the evidence," but has "entirely failed to consider an important aspect of the problem." Id. We consider this the principal flaw in the agency's decision-making rationale.

It cannot be doubted that ongoing violations of federally approved water quality standards constitute "an important aspect" of the decision whether to permit an additional source of pollution on a waterway. Adherence to EPA's treatment of the facts and law of this case would fatally undermine the federal water pollution control strategy engineered by the Clean Water Act and enhanced by Oklahoma law. As we have seen, the "first principle of the [CWA] is... that it is unlawful to pollute at all.... The foremost national goal enunciated by Congress is the complete elimination of the discharge of pollutants." Natural Resources Defense Council v. EPA, 822 F.2d 104, 123 (D.C.Cir.1987) (referring to 33 U.S.C. § 1251(a) (1); see also § 1251(a) (6)).

⁵⁰ See supra note 47.

⁵¹ There is extensive legislative history on the goals and policy section, § 101, of the CWA, 33 U.S.C. § 1251(a). See National Wildlife Fed'n, 693 F.2d at 179-81, for one overview of that history. The D.C. Circuit stated:

[[]T]he sponsors of the Act successfully insisted on a zerodischarge-of-pollutants goal despite strong objection from both within and without. . . . Senator Muskie, the Senate sponsor

The CWA further declares that it is the "primary responsibilit[y] . . . of States to prevent, reduce and eliminate pollution." § 1251(b). In at least one court's opinion, the "language of the Act indicates that striving for the utter abolition of pollution is an acceptable approach for states to take." Union Oil Co., 813 F.2d at 1487 n. 6. Oklahoma dutifully heeds the Act's mandate. Its water pollution control policies and requirements call for: "protect[ing], maintain[ing] and improv[ing] the quality" of the waters of the State, Okla Stat. tit. 82, § 926.2; employing the permitting system "to prevent, control or abate pollution," id. § 926.3.10; classifying state waters "for the purpose of progressively improving the[ir] quality" and "upgrading them from time to time by reclassifying them," id. § 926.6.A.; and allowing "no degradation" of the state's scenic rivers, OWQS § 3. Common sense dictates that a pollution control strategy designed to prevent, abate, and eliminate pollution would be subverted by allowing a new source of pollution on a currently polluted watercourse.

This judgment is corroborated by the Supreme Court's pronouncements concerning the legislative purposes behind the CWA. After painstaking review of the Act's legislative history, the Court declared that "Congress' intent... was clearly to establish an all-encompassing program of water pollution regulation" and that the "major purpose' of the [CWA] Amendments was 'to establish a comprehensive long-range policy for the elimination of water pollution." Milwaukee v. Illinois, 451 U.S. at 318, 101 S.Ct. at 1793 (citation omitted; emphasis in original); see also Ouellette, 479 U.S. at 489, 107 S.Ct. at 810.

The Court explained that before it was amended in 1972 and 1977 the Clean Water Act relied solely on water quality standards to control and reduce pollution. But that system "proved ineffective. The problems stemmed from the character of the standard themselves, which was focused on the tolerable effects rather than the preventable causes of water pollution. . . ." State Water Resources Control Bd., 426 U.S. at 202, 96 S.Ct. at 2023 (emphasis added). The Court described the effect of the amendments:

[The 1972] Amendments introduced two major changes. . . . First, the Amendments are aimed at achieving maximum "effluent limitations" on "point sources," as well as achieving acceptable water quality standards. . . .

Second, the Amendments establish the National Pollutant Discharge Elimination System (NPDES) as a means of achieving and enforcing the effluent limitations. . . .

Water quality standards are retained [in the amended Act] as a supplementary basis for effluent limitations . . . so that numerous point sources, despite individual compliance with effluent limitations, may be further regulated to prevent water quality from falling below acceptable levels. . . .

Id. at 204-05 & n. 12, 96 S.Ct. at 2024-25 & n. 12 (emphasis added).

Water quality standards could still be said to "focus on the tolerable effects of water pollution," but the focus of the NPDES program clearly is the "preventable causes" of pollution. As the passage quoted above reveals, even licensed polluters in compliance with their permit limitations may be further regulated if necessary to ensure that water quality standards are achieved and maintained. This authority to regulate, along with the absence of any right to pollute, necessarily subsumes the authority to deny a request permit. These powers are essential to the ability to prevent pollution and thereby accomplish the

and principal force behind the bill, stated, in the post-conference debate on the bill: "These [goals] are not merely the pious declarations that Congress so often makes in passing its laws; on the contrary, this is literally a life or death proposition for the nation."

⁶⁹³ F.2d at 179 (quoting 118 Cong.Rec. 33,693 (1972)).

Act's ultimate goal of eliminating pollutant discharges to water.⁵²

EPA and the Arkansas parties urge that the Fayetteville discharge should be permitted because its individual impact on Illinois River water quality will not be detectable. While this may prove true (and we pass no judgment thereon), we reject the argument because of its unavoidable results.⁵³ If we were to accept this logic, once water quality standards in a stream were violated, additional new discharges might be permitted indefinitely so long as each one would have an unmeasurable individual impact. The absurdity of such a policy is manifest.

Congress cannot reasonably be presumed to have intended to exclude from the CWA's "all-encompassing program," 451 U.S. at 318, a permitting decision arising in

circumstances such as those of this case. It is even more unfathomable that Congress fashioned a comprehensive . . . policy for the elimination of water pollution," id., which sanctions continued pollution once minimum water quality standards have been transgressed. More likely, Congress simply never contemplated that EPA or a state would consider it permissible to authorize further pollution under such circumstances. We will not ascribe to the Act either the gaping loophole or the irrational purpose necessary to uphold EPA's action in this case.

We agree there must be an initial, detectable change in the water quality of a particular body of water for that water to qualify as "degraded." 56 However, in circumstances such as those extant here, we reject any notion that, once water quality standards have been violated (i.e., the quality of the receiving waters has been degraded), the incremental impact of a proposed additional discharge must itself be detectable. Nor is it necessary to demonstrate that the proposed discharge would necessarily increase the frequency of violations. Contra Decision on Remand, R., A-33, at 19 ("no credible evidence to suggest that the frequency of [dissolved oxygen] violations would increase due soley to [Fayetteville's] discharge"). Rather, if a body of water is experiencing WQS violations and a proposed new source would discharge the same pollutants to which those standards apply, that source may not be

⁵² EPA is never required to issue a discharge permit; rather, under 33 U.S.C. § 1342(a) (1), EPA "may . . . issue a permit . . . upon condition that such discharge will meet . . . all applicable requirements." (Emphasis added.) See also § 1342(d) (4) (EPA "may issue" a permit pursuant to § 1342(a) if it objects to a state-issued permit) (emphasis added)). The CWA confers no "right to pollute"; indeed, it takes away any license to pollute unless a permit is first obtained. In fact, as we saw in the previous section of this opinion, EPA may not permit a discharge if compliance with applicable water quality requirements cannot be insured. 33 U.S.C. § 1341(a) (2). Plainly, EPA is empowered to deny a permit under the circumstances of this case.

violations. E.g., Union Oil, 813 F.2d at 1490-91 (CWA "makes no proviso for 'rare' violations"). See also Order on Petitions for Review, R., A-28, at 13 (improper to imply a de minimis test); 49 Fed.Reg. at 38,038 (according to EPA, "water quality standards... are legally required to be met at all times" (emphasis added)). In this regard, the Clean Water Act and Oklahoma's Anti-Degradation Policy, which we have explained prohibits any detectable change in the water quality of scenic rivers, can be contrasted to the Clean Air Act, 42 U.S.C. §§ 7401-7642, which prohibits "significant deterioration" of air quality in "clean air areas," and quantities "significant" in terms of "maximum allowable increases" in the concentrations of certain pollutants. 42 U.S.C. §§ 7471-7473.

ommittee was concerned in 1977 that the gains achieved due to the 1977 CWA amendments would be lost in the 1980s if only the 1977 effluent limitations were applied. S.Rep. No. 370, at 42, reprinted in 1977 U.S.Code Cong. & Admin.News at 4367. The committee warned that "pressure must be maintained to assure improved water quality and to avoid slipping back." Id. (emphasis added).

⁵⁵ It appears Congress did consider a variation of this issue, however. See infra note 57.

⁵⁶ This statement assumes the applicability of regulations comparable to Oklahoma's Beneficial Use Limitations/Anti-Degradation Policy.

permitted if its effluent will reach the degraded waters. Here, Fayetteville's effluent contains phosphorus and nitrogen, each of which impacts several Illinois River water quality criteria—nutrients, turbidity, dissolved oxygen, aesthetics. Violations of at least two of these criteria are already occurring. See supra part III.B.2.a. Fayetteville's effluent will be carried downstream to the scenic river. At worst, it will increase the frequency and severity of ongoing violations; at best, it will thwart efforts to bring the river back into compliance with the applicable standards. These factors are sufficient to deny the permit.

We find additional support for our holding in a remedy provided by the Act, which is specific to violations of the permit conditions of publicly owned treatment works such as Fayetteville's plant. Section § 402(h) of the CWA, 33 U.S.C. § 1342(h), provides for "restrict[ing] or prohibit[ing] the introduction of any pollutant into a publicly owned treatment works that has violated a condition of its discharge permit] by a source not utilizing such treatment works prior to the finding that such condition was violated." According to the D.C. Circuit, this provision authorizes the imposition of a "prospective [sewer] hook-up moratorium." Montgomery Envtl. Coalition, 646 F.2d at 587-88. If EPA and the courts have power to establish a moratorium on additional sewer hook-ups to an existing plant in order to clean up the plant's receiving waters, surely the power exists to deny a new permit in order to accomplish the same result. The "great reliance Congress has placed on the permit process as the means of finally achieving water quality standards," id. at 588, would indeed be misplaced if the Act were construed to limit the permitting agency to protecting water quality via permit conditions only, and not by denying a permit altogether.

The burdensome consequences of denying a permit under these circumstances do not alter our conclusion.

Congress recognized and accepted that there would be economic hardships as a result of requiring compliance with the 1972 and 1977 CWA amendments. See EPA v. National Crushed Stone Ass'n, 449 U.S. 64, 79-83, 101 S.Ct. 295, 304-06, 66 L.Ed.2d 268 (1980); Chemical Mfrs. Ass'n v. EPA, 870 F.2d 177, 252 (5th Cir.1989) (it is "Congress' judgment that society must bear such costs [e.g., plant closing and job losses] as the price of achieving the long-term benefits of eliminating pollutants from our nation's waters"). Thus, while it is arguably unfair to "punish" Fayetteville for preexisting dischargers' past failure to comply with WQS—and for enforcement agencies' failure to take action against those dischargers—such a result is not foreclosed by the Act. Indeed, there is no statutory justification for limiting EPA in these circumstances to taking action against the past violators. See United States v. Earth Sciences, Inc., 599 F.2d 368, 376 (10th Cir.1979) ("It is plainly inconsistent with the strong enforcement policy of the Act to declare the EPA must choose between prevention of future pollution discharges and punishment of past violations.... [EPA] needs both sanctions.").

Recognizing EPA's "heavy responsibility in the permit issuing process," the D.C. Circuit has advised the agency that a "watchful role . . . is more appropriate than a timid disinclination to impose any technical requirement that lacks an explicit imprimatur in the statutory language." Montgomery Envtl. Coalition, 646 F.2d at 587; cf. 1972 U.S.Code Cong. & Admin.News at 3737 ("Federal Government as the custodian of the navigable waters has the responsibility to control affirmatively any discharges of pollutants into the navigable waters" (emphasis added)). We concur with that view. Here, the only aspect of exercising EPA's authority to deny an NPDES permit that "lacks an explicit imprimatur" in the CWA is the relevance of existing WQS violations. 57

⁵⁷ One provision of the CWA, however, intimates that Congress did consider the effect of existing water quality degradation on the

But if EPA is to serve a "watchful role," as we believe it must, surely it is obligated to deny any additional pollution under circumstances such as these. We conclude EPA's express powers and obligations under the CWA necessarily subsume the power to prohibit any new discharge of pollution, regardless of the magnitude of its impact, where the existing quality of the receiving waters does not meet required standards.⁵⁸

decision whether to permit a new source. The certification statute, which we discussed in the first part of this opinion, contemplates a variation of the circumstances of this case. It provides that a certification obtained for purposes of receiving an NPDES permit also satisfies the certification requirement for any other federal license required for operation of the source unless "there is no longer reasonable assurance that there will be compliance with the applicable provisions of [the CWA] because of changes since the [certification] was issued in . . . the characteristics of the waters into which such discharge is made." 33 U.S.C. § 1341(a) (3) (emphasis added). The gist of this provision was first enacted in section 11 of the Water and Environmental Quality Improvement Act of 1970. Pub.L. No. 91-224. According to the House Report on the enacted bill, section 11 provided that the first certification was sufficient for additional licenses or permits "if, after notice to the affected State or States . . . no written objection is made to the granting of such license or permit without a subsequent certification." House Rep. No. 127, 91st Cong., 2d Sess., reprinted in 1970 U.S.Code Cong. & Admin. News 2691, 2711. The statute further provided that a license or permit could be suspended if a court subsequently found that the licensee or permittee was violating applicable water quality standards. Id. We view these sections in the 1970 and 1972 statutes as buttressing our decision today.

degraded stream protected by the equivalent of Oklahoma's Beneficial Use Limitations regulation might be permitted in certain extremely narrow circumstances. This might be permissible where the chemical and physical makeup of the effluent of the new source was unrelated to the standards being violated; for example, where the only potential effect of the effluent was on water temperature (OWQS § 4.1(b)), but the stream was degraded only with respect to toxics (OWQS § 4.3(h)). But where, as here, only the standards being violated are intended to govern constituents of a proposed source's effluent and any amount of that effluent can reasonably be ex-

For all the foregoing reasons, we conclude that EPA's failure to exercise its authority to deny the Fayetteville permit is arbitrary and capricious or otherwise not in accordance with law. Particularly in light of the existing pollution of the Illinois scenic river, the agency's decision is inconsistent with the language of the Clean Water Act, as interpreted in light of the legislative history, and frustrates the policy that Congress sought to implement. See National Wildlife Federation v. Gorsuch, 693 F.2d at 171 (citing Democratic Senatorial Campaign Comm., 454 U.S. at 32, 102 S.Ct. at 45). Accordingly, "no amount of deference can save" it. Id. Given this conclusion, we do not reach the remaining issues raised by the parties.

We are not unmindful that our opinion may lead the parties to this permit action to consider what recourse may be available to them. We note, first of all, that our opinion in no way affects Fayetteville's right to discharge treated effluent, in accordance with the terms of its permit, to the White River in Arkansas. Beyond that, we note that the Clean Water Act provides a wide array of enforcement options, one or more of which may be available in these circumstances to force improvement of Illinois River water quality and enable compliance with Oklahoma's standards. See, e.g., 33 U.S.C. §§ 1319, 1365. Moreover, as the parties debated in their briefs and at the administrative hearing, technological alternatives to the Illinois River discharge do exist. Having said this, however, we offer no judgment as to the availability, applicability, or efficacy of any of these potential remedies or approaches.

In conclusion, we hold that the Clean Water Act requires point sources to comply with the federally approved water quality standards of affected downstream states. We further hold that where water quality standards violations are already occurring in the receiving waters, no

pected to reach the degraded waters, the new discharge may not be permitted.

additional point source discharge to those waters may be permitted if it would contribute to the conditions that produced the violations. Accordingly, we REVERSE EPA's decision authorizing Fayetteville's municipal treatment plant to discharge a portion of its effluent to the Illinois River basin pursuant to the terms of Permit No. AR0020010.

APPENDIX

OWQS § 5, Beneficial Use Limitations, provides in full:

All streams and bodies of water designated as (a) are protected by prohibition of any new point source discharge of wastes or increased load from an existing point source except under conditions described in Section 3.

All streams designated by the State as "scenic river areas," and such tributaries of those streams as may be appropriate will be so designated. Best management practices for control of nonpoint source discharges should be initiated when feasible. OWQS § 3, Anti-Degradation Policy, provides in full:

The intent of the Anti-Degradation Policy is to protect all waters of the State from quality degradation. Existing instream water uses shall be maintained and protected. No further water quality degradation which would interfere with or become injurious to existing instream water uses shall be allowed. Oklahoma's waters constitute a valuable State resource and shall be protected, maintained and improved for the benefit of all the citizens.

It is recognized that certain waters of the State possess an existing water quality which exceeds those levels necessary to support propagation of fish, shellfish, wildlife, and recreation in and on the water. These high quality waters shall be maintained and protected unless the State decides, after full satisfaction of the intergovernmental coordination, and public participation provisions of the State's continuing planning process, to allow lower water quality as a result of necessary and justifiable economic or social devolpment. Furthermore, where limited degradation is justified, the State shall require that any new point source of pollution or increased load from an existing point source, protect all existing and attainable beneficial uses through the highest statutory and regulatory requirements, and feasible management or regulatory

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programs pursuant to Section 208 of Public Law 92-500 as amended by PL 95-217 for nonpoint sources.

No degradation shall be allowed in high quality waters which constitute an outstanding resource or in waters of exceptional recreational or ecological significance. These include water bodies located in National and State parks, Wildlife Refuges, and those designated "Scenic Rivers" in Appendix A.

As the quality of Oklahoma waters improves, no degradation of such improved waters shall be allowed. When the yearly mean standard for a specific parameter decreases to the point where the goals listed in Appendix E become attainable, degradation will be prohibited by incorporating the goal as a standard.

In those cases where potential water quality impairment associated with a thermal discharge is involved, the anti-degradation policy and implementation method shall be consistent with Section 316 of Public Law 92-500 as amended by PL 95-217.

APPENDIX B

UNITED STATES COURT OF APPEALS FOR THE TENTH CIRCUIT

No. 89-9503 89-9507 89-9516

STATE OF OKLAHOMA, et al., SAVE THE ILLINOIS RIVER (STIR), STATE OF ARKANSAS, et al.,

Petitioners,

Environmental Protection Agency, Respondent,

ORDER

Filed October 11, 1990

Before HOLLOWAY, Chief Judge, McKAY, LOGAN, SEYMOUR, MOORE, ANDERSON, TACHA, BAL-DOCK, BRORBY, EBEL, Circuit Judges, and THEIS,* District Judge.

The motion of the Arkansas Poultry Federation and the joint motion of the Associated Industries of Arkansas and the Arkansas Federation of Water & Air Users, Inc. for leave to file briefs amicus curiae are granted by the panel of judges who decided the petitions on the merits.

The petitions for rehearing filed by the Environmental Protection Agency, the State of Arkansas, the Arkansas

^{*} The Honorable Frank G. Theis, Senior United States District Judge for the District of Kansas, sitting by designation.

Department of Pollution Control and Ecology, the City of Fayettville, Arkansas and the Beaver Water District are denied by the panel of judges who decided the petitions on the merits.

Pursuant to Fed. R. App. P. 35(b) the suggestion for rehearing en banc was transmitted to the panel members and the remaining judges in regular active service. No panel member or judge in regular active service having called for a poll, the suggestion for rehearing en banc is also denied.

Entered for the Court

ROBERT L. HOECKER, Clerk

By: /s/ Patrick Fisher
PATRICK FISHER
Chief Deputy Clerk

APPENDIX C

UNITED STATES COURT OF APPEALS FOR THE TENTH CIRCUIT

Nos. 89-9503 89-9507 89-9516

STATE OF OKLAHOMA, SAVE THE ILLINOIS RIVER (STIR), STATE OF ARKANSAS,

Petitioners,

Environmental Protection Agency, Respondent.

ORDER

Filed October 31, 1990

Before ANDERSON and BRORBY, Circuit Judges, and THEIS*, District Judge.

The Arkansas parties' motion to stay the mandate pending filing of a petition for certiorari is granted. If a timely petition is filed, the mandate is further stayed pending disposition in the Supreme Court. Fed.R.App.P. 41(b).

Entered for the Court

ROBERT L. HOECKER, Clerk

By: /s/ Patrick Fisher
PATRICK FISHER
Chief Deputy Clerk

^{*} The Honorable Frank G. Theis, Senior United States District Judge for the District of Kansas, sitting by designation.

APPENDIX D

SUPREME COURT OF THE UNITED STATES

No. A-501

ARKANSAS, et al.,

Petitioners

v.

OKLAHOMA, et al.

ORDER

UPON CONSIDERATION of the application of counsel for the petitioners,

IT IS ORDERED that the time for filing a petition for a writ of certiorari in the above-entitled case, be and the same is hereby, extended to and including February 8th, 1991.

/s/ Byron R. White Associate Justice of the Supreme Court of the United States

Dated this 28th day of December, 1990.

APPENDIX E

Fayetteville, AR 72702

Mr. James N. McCord 113 West Mountain Fayetteville, AR 72701

Ms. Catherine A. Winer United States Environmental Protection Agency Office of the General Counsel Washington, DC 20460

Mr. Pat Rankin 1445 Ross Avenue Suite 1200 Dallas, TX 75202

Mr. Julian K. Fite P.O. Box 11 Muskogee, OK 74402

Mr. Ed Edmondson 604 Manhattan Building P.O. Box 11 Muskogee, OK 74402

Re: 89-9503, State of Oklahoma v. EPA 89-9507, Save the Illinois v. EPA 89-9516, State of Arkansas v. EPA

Dear Counsel:

Enclosed is a copy of the opinion of the court in the captioned case. Judgment in accordance with the opinion has been entered today.

Please call this office if you have questions.

Sincerely,

ROBERT L. HOECKER, Clerk

By: /s/ Patrick Fisher
PATRICK FISHER
Chief Deputy Clerk

PF:afw Enclosure

APPENDIX F

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460

NPDES No. AR0020010

In the Matter of:

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT FOR CITY OF FAYETTEVILLE, ARKANSAS

CLEAN WATER ACT,

NPDES, Interstate Water Pollution, where the record shows that a discharge in one state will not have an undue impact on interstate waters the permit authorizing such discharge should be issued not be denied.

APPEARANCES:

FOR THE STATE OF OKLAHOMA
AND OKLAHOMA POLLUTION
CONTROL COORDINATING BOARD
Robert H. Henry,
Attorney General
Sara J. Drake,
Asst. Attorney General
State of Oklahoma
112 State Capitol Building
Oklahoma City, Oklahoma 73105

FOR THE CITY OF FAYETTEVILLE James N. McCord, Esq. City of Fayetteville 113 W. Mountain Fayetteville, Arkansas 72701 FOR THE ARKANSAS DEPARTMENT
OF POLLUTION CONTROL &
ECOLOGY
Steven J. Clark,
Attorney General
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Heritage Center West
201 East Markham
Little Rock, Arkansas 72201

FOR THE BEAVER WATER DISTRICT Walter R. Niblock, Esq. The Niblock Law Firm P.O. Drawer 818 Fayetteville, Arkansas 72702 FOR THE OKLAHOMA WILDLIFE FEDERATION Rick Jamerson, Executive Director 4545 Lincoln Blvd., Suite 171 Oklahoma City, Oklahoma 73105

For the Citizen's Action for a SAFE Environment Kathy Carter-White, Esq. Barksdale & Carter-White 110 West Delaware Tahlequah, Oklahoma 74464

For Save the Illinois River Ed Edmondson, Esq. 416 Court Street P.O. Box 11 Muskogee, Oklahoma 74402-0011 FOR THE U.S. ENVIRONMENTAL PROTECTION AGENCY— REGION 6 Jan M. Horn, Esq. 1445 Ross Avenue, Mail Code 6C-W Dallas, Texas 75202-2733

FOR THE ARKANSAS DEPARTMENT
OF POLLUTION CONTROL &
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FOR THE ILLINOIS RIVER
PROPERTY ASSOCIATION OF
ARKANSAS
Jay D. Cole, President
Route 4, Box 384
Fayetteville, Arkansas 72701

INITIAL DECISION

PROCEDURAL BACKGROUND

On August 7, 1985, a public permit hearing was held in Fayetteville, Arkansas to receive statements from all interested parties regarding the permit proposed in the public notice published July 6, 1985, on permit number AR0020010, City of Fayetteville, Arkansas. The Oklahoma Attorney General, through Assistant Attorney General Sara J. Drake was present at that hearing and submitted a letter to Ms. Ellen Caldwell dated August 7, 1985, setting out various concerns of the Oklahoma parties. The Attorney General submitted comments relating to technical concerns about the proposed NPDES permit from Roberts/Schornick and Associates. The Attorney General also submitted a report prepared by Roberts/Schornicks and Associates entitled "Illinois River Assessment Report, December 10, 1984."

Subsequent to the public hearing on August 7, 1985, the Environmental Protection Agency (hereinafter "the EPA") issued the final authorization to discharge under the National Pollution Discharge Elimination System (NPDES) on November 5, 1985. That permit authorized the City of Fayetteville, Arkansas to discharge treated sewage effluent in a split discharge into the White River and Mud Creek, Arkansas. Mud Creek is a tributary to the Illinois River which eventually flows into the State of Oklahoma. The discharge into the White River, an intrastate stream, it not involved in this matter.

Special conditions relating to the White River discharge are: no discharge to the White River is permitted unless the stream flow is 60 cfs or more. The permittee is required to operate an industrial pretreatment program.

Special permit conditions are included on the Illinois River basin, including requirements that 30 day average of flow of treated effluent discharge into Mud Creek shall not exceed 50% of the 30 day average flow of treated effluent from the plant. Also, the 30 day average flow of effluent shall not exceed 6.1 million gallons per day. There is an additional requirement that if the joint Arkansas/Oklahoma/EPA Water Quality Study of the Illinois River basin shows that more stringent limitations for Fayetteville effluent are necessary to ensure that water quality standards are met, then the permit will be modified to incorporate the more stringent limitations, including the potential for a requirement that additional treatment be provided or that Fayetteville's discharge to Mud Creek cease.

On December 6, 1985, the Oklahoma Attorney General filed a request for an Evidentary Hearing on behalf of the State of Oklahoma and the Oklahoma Scenic River Commission, on the subject permit. Save the Illinois River (STIR) also filed a request.

On January 10, 1986, the EPA granted Oklahoma and STIR's request for Evidentary Hearing on the following issues, (1) the factual issue of whether or not the discharge from the City of Fayetteville's NPDES permit will violate the Oklahoma Water Quality Standards; and (2) whether the utilization of technology that is untested at the level of proposed usage by the City of Fayetteville will allow the plant to satisfactorily treat waste water to the levels perscribed by the permit.

On February 14, 1986, the EPA received Oklahoma's Notice of Appeal and Petition for Review, appealing the EPA's determination to deny certain requested issues in the Evidentary Hearing. On February 18, 1986, the EPA received a requested submitted by the Arkansas Attorney General on behalf of the Pollution Control Coordinating Board entitled "Request Be Admitted As A Party".

By Order on May 23, 1986, the EPA denied Oklahoma's petition for rehearing. On July 19, 1986, the EPA, Region VI gave public notice of an Evidentary

Hearing for City of Fayetteville, Arkansas allowing interested persons to file a request to be admitted as a party and to raise any additional issues of fact or law not already raised.

On August 18, 1986, an Order was issued allowing the City of Fayetteville, Arkansas, the Arkansas Department of Pollution Control and Ecology, the Oklahoma Pollution Control Coordinating Board, the Oklahoma Wild Life Federation, and the Beaver Water District to appear as additional parties. The Order also allowed the Citizens Actions for a Safe Environment and the Illinois River Property Association of Arkansas to make a statement for the record. Included in the above Order was a requirement that EPA advise the Court and the parties as to whether or not the Oklahoma non-negredation standard for the Illinois River had been approved by the EPA.

On August 29, 1986, Region VI of the EPA stated that the approved 1982 Water Standards which were in effect at the time of the granting of the NPDES permit in this action includes an "anti-degredation policy" in Section 3 of those Water Quality Standards. That standard states in part that:

"The intent of the anti-degredation policy is to protect all waters of the state from quality degredation. Existing instream water usage shall be maintained and protected. No further water quality degredation which would interfer with or become injurious to existing instream water usage shall be allowed. Oklahoma's waters constitute a valuable state resource and shall be protected, maintained and improved for the benefit of all citizens. No degredation shall be allowed in high quality waters which constitute an outstanding resource or inwaters of exceptional recreational or ecological significance. These include water bodies located in national and state parks, wide life refuges and those designated "scenic rivers" in Appendix A".

Section 5 of Oklahoma's Water Quality Standards entitled "Beneficial Use Limitations" states:

"All streams and bodies or water designated as (a) are protected by prohibition of any new point source discharge of waste or increased load from an existing point source except under conditions described under Section 3.

All streams designated by the state as "scenic river areas" and such tributaries of those streams as may be appropriate will be so designated. Best management practices for control of non-point source discharges should be initiated when feasible."

The Illinois River in Oklahoma above the 650 foot elevation level of Tenkiller-Reservoir to the state line with Arkansas is statutorily designated as a scenic river. Following a series of request for documentation and a Motion for Summary Determination or alternatively a Motion to Dismiss, the Evidentary Hearing in this matter was held on August 18 through 20, 1987. At that hearing all parties made available for cross-examination all witnesses for which pre-filed direct and rebuttal testimony had been filed.

Pursuant to the above mentioned Motion for Summary Determination, the Court ordered that the question of whether or not the effluent from the City of Fayette-ville's sewage treatment plant would violate the Water Quality Standard's of the State of Oklahoma was allowed and the second issue as the whether or not the technology to be applied by the above mentioned water sewage treatment plant would meet the limitations contained in the permit was dismissed as a issue in this matter. Therefore at the time of the hearing the only issue in controversy was whether or not the effluent from the sewage treatment plant in Arkansas would violate the Water Quality Standard's of the State of Oklahoma.

FACTUAL BACKGROUND

After approximately 40 public hearings, the City of Fayetteville finally determined, after hiring several consultants, to build one sewage treatment plant and split the flow between the White River and an unnamed tributary of Mud Creek. Some of the various alternatives considered were putting all of the effluent into the White River, building two separate sewage treatment plants. land application and a variety of permuntations of the above mentioned alternatives. The permit as currently written requires that the flow from the sewage treatment plant be split equally between the White River and the unknown tributary of Mud Creek which flows for approximately 2 miles before it's confluence with Mud Creek, Mud Creek flows 3 miles prior to it's confluence with Clear Creek, it enters Clear Creek approximately 13 miles up stream of the Illinois River in Arkansas. Upon entering the Illinois River the effluent would then travel approximately 22 miles to the Oklahoma border approximately at the beginning of Lake Frances in the State of Oklahoma. Therefore the treated sewage effluent from the plant would travel approximately 39 miles in the state of Arkansas before it hits the Oklahoma border. In as much as the plant is not in operation, the testimony of the expert witnesses at the hearing consisted of explanations of various mathematical models which the witnesses had constructed to determine the impact of the proposed flow on the water of the State of Oklahoma.

Needless to say it was the conclusion of the Arkansas party's witnesses that the discharge from the Fayette-ville, Arkansas water sewage treatment plant would have little or no measurable impact on the water quality of the State of Oklahoma and conversely it was the opinion of the Oklahoma experts that there would be an impact on the water quality of the State of Oklahoma. Before discussing the conclusions of the above mentioned experts it would be helpful to examine the law on this issue

to determine just what the standard is which the Court must apply in making it's final determination in this matter.

APPLICABLE LEGAL STANDARD

Section 401 of the Federal Water Pollution Control Act states that if the Administrator determines that the discharge of a facility may effect the quality of waters of any other state, he shall give notice to such state and if, after following the requirements of the Act, the effected state so requests, a hearing is held under Section 401 on the issue of whether or not the proposed permitted discharge will have an impact on the waters of the receiving state. The statute then goes on to say,

"such Agency, based upon the recommendations of such state, the Administrator, and upon such additional evidence, if any, presented to the Agency at the hearing, shall condition such license or permit in such manner as may be necessary to ensure compliance with applicable water quality requirements. If the imposition of the conditions cannot ensure such compliance, such Agency shall not issue such license or permit."

It should be noted that the requirements for public hearing under Section 401 are only triggered if the Administrator or the issuing Agency determines that the discharge will have an adverse impact on the waters of the receiving state. In this instance the Administrator, after evaluating the record, determined that no such impact would exist and therefore notification of the State of Oklahoma was not given and no public hearing under Section 401, as just described was ever had. The hearing which is a subject of this decision was an adjudicatory hearing held pursuant to subpart E of 40 C.F.R. § 124.

The Supreme Court of the United States in the case of International Paper Company vs. Ouellette, 107 Supreme Court 805 (1987) in discussing the construction which it

felt applicable to the Federal Clean Water Act stated that in effected states only recourse is to apply to the EPA Administrator who then has the descretion to disapprove the permit if he concludes that the discharge will have an "undue impact on interstate waters." Citing the above mentioned Section 401 hearing. I am therefore of the opinion that the standard to be applied in this case is whether or not the discharge will have an undue impact on interstate waters. This conclusion was reinforced by a recent case entitled Champion II, 652 Fed. Sup. 1398 (1987) wherein the Court stated that,

"an effected states water standards are obviously relevant to a determination that discharge would have an undue impact on interstate waters. To hold otherwise would be to thwarth the purposes of the Clean Water Act generally in interstate dispute provision citing the standard in the statute."

The Court went on to say "if the EPA was not permitted to consider the water standards of an effected state there would rarely be an interstate dispute." A careful reading of these two cases, which provide the only guidance known to the writer to exist on what standard one must apply in determining interstate water dispute supports the conclusion that something more than a mere technical violation of the Water Quality Standards must exist and there must be an undue impact on interstate waters in order for the subject permit to be denied. The term "undue impact" is not defined by the Supreme Court in Ouellette or by the District Court in Champion II. Because the Clean Air Act, 42 U.S.C. §§ 7401-7602 is similar in its purposees to the CWA 1, cases construing that legislation should be considered in determining what constitutes "undue impact".

¹ A major objective of the Clean Air Act Amendments of 1977 was to deal with the problem of interstate air pollution. Air Pollution Control District of Jefferson, Kentucky v. United States Environmental Protection Agency, 739 F.2d 1071, 1088 (6th Cir. 1984).

Under the Clean Air Act, the test to be applied in evaluating a petition for interstate pollution abatement is whether the upwind state's emissions "significantly contribute to violations of national ambient air quality standards in a downwind state." Air Pollution Control District of Jefferson County, Kentucky v. United States Environmental Protection Agency, supra, 739 F. 2d at 1093. "De minimis" impacts on air quality of downstream states from upwind state emissions are not actionable. See Alabama Power Co. v. Costle, 636 F. 2d 323, 360 (D.C. Cir. 1979); Connecticut Fund for the Environment, Inc. v. Environmental Protection Agency, 696 F. 2d 169, 177 (2d Cir. 1982). Likewise, if a discharge of pollutants in a source state has a de minimis impact on water quality in a downstream state, the Court should find no significant contribution to interstate pollution and no undue impact on interstate waters. Therefore I am of the opinion that something more than a mere de minimis impact on the affected states water quality standards must exist in order to prohibit the issuance of a discharge permit in the originating state. It should also be noted that pursuant to 40 C.F.R. § 124.85 any party who contends that the denial of the issuance of a permit is improper and invalid shall have the burden of going forward to present an affirmative case at the conclusion of the Agency case on the challenged requirements. That section also states that the permit applicant, in this case the City of Fayetteville, always bears the burden of persuading the Agency that a permit authorizing pollutants be discharged should be issued and not denied and this burden does not shift. The note to that section states that, in many cases, the documents contained in administrative record, in particular, the Fact Sheet or Statement of Basis in Response to Comments should be adequate to discharge this burden. The rather volumnous administrative record in this case along with the testimony offered by the Arkansas parties in my judgment satisfies the burden of persuasion of the applicant and therefore the burden of show-

ing that the permit should not be issued rests upon the Oklahoma parties.

DISCUSSIONS AND CONCLUSIONS

As noted above, the Oklahoma expert witnesses testified that the results of their mathematical modeling studies suggested that there would be some impact on the Oklahoma Water Quality Standards due to the discharge from the Fayetteville sewage treatment plant. However, on cross-examination all of the witnesses testified that in most cases the changes which their models predicted would occur would in a real life situation be practically unmeasurable and undetectible. The other problem associated with the modeling exercises performed by the Oklahoma experts was that they assumed no assimilative capacity of the river in question. The assimilative capacity of a river is a well documented phenomenon and the data which exists in this case, which was measured by several of the witnesses, suggests that this activity is in fact taking place in areas down stream from the sewage treatment plant in areas where sewage discharges are currently occurring. When these two factors are taken into consideration, i.e. (1) that the changes suggested by the Oklahoma witnesses would be in most cases unmeasurable by any known technology, and (2) that the assimilative capacity of the river was not taken into account in their modeling exercises, one must conclude that the adverse affects, if any, which will be produced by the discharge from the Fayetteville sewage treatment plant would be de minimis at most and therefore would not constitute the undue impact on interstate waters which the above cited cases suggest is required in order to prohibit or deny the issuance of a permit under Section 402 of the Clean Water Act.

For example, Dr. William Walker, an expert who testified on behalf of the Oklahoma parties stated as follows: "Dr. Walker, there is no change or very little change, which you have just told me is not measurable, in chlorophyll-a with Fayetteville's discharge or without Fayetteville's discharge. There is not going to be a measurable difference in water quality in terms of algal growth and the associated problems with taste and odor, turbidity, things like that, will there?"

Answer:

"There will not be a change."

This conversation appears on pages 692 and 693 of the transcript. The testimony of the Oklahoma witnesses on the issue of whether or not there would be a measurable or discernable adverse impact on the non-degredation and other water quality standards of the State of Oklahoma due to the discharge from the Fayetteville sewage treatment plant.

Although it is true that the water quality standards of a receiving state are relevant factors which the Administrator must take into consideration in determining whether or not there is in fact an undue impact on interstate waters, such standards or the violation thereof must be shown to exist in something more than a de minimis or minor fashion. This theory and philosophy is reiterated in the "Champion II" case entitled Champion International Corporation vs. United States Environmental Protection Agency, 652 Fed. Sup. 1938 (W.D.N.C. 1987) wherein the Court said "Nothing in the regulatory framework surrounding the CWA would automatically require that a source state comply with the water quality standards of every down stream state." The Court then went on to suggest, as I have just done, that the water quality standards of the receiving state are relevant factors in determining whether or not there is an undue impact from interstate waters. The Court further stated,

"That if the Administrator determines that the discharge levels specified in the permit will have an undue impact on interstate waters, he may properly object, regardless of how those levels compare with the water quality standards of the down stream state or the source state." (Emphasis supplied).

All of the above cited Court decisions suggest that in order for a permit to be denied there must be something more than a possibility of violation of down stream water quality standards and that there must be demonstrated and shown that the discharge will have an undue impact on interstate waters before such drastic action would be required. This conclusion is supported by the Oklahoma State Department of Health Deputy Commissioner for Environmental Health Services who in a letter dated January 25, 1984, to the Scenic River's Association of Oklahoma stated that:

". . . our technical evaluation indicates that no noticable impact would occur if the proposed discharge is treated to the level proposed. That level is equivalent to the most thorough and complete treatment currently available. . . ." (City of Fayetteville Exhibit No. 4)

Based on the volumeous administrative record composed of nine volumes of approximately 2 and ½ inches thick, along with the direct testimony and rebuttal testimony presented by the Arkansas parties to the proceeding, I am of the opinion that the permit applicant has successfully borne the burden of persuading the writer that the permit authorizing the pollutants of discharge should be issued and not denied and that the evidence put forth by the Oklahoma parties was not sufficiently strong to persuade this writer that the permit should be denied or otherwise be invalid. For those readers interested in a more exhaustive description of the testimony of the above mentioned witnesses, their attention is directed to the highly detailed treatise contained in the

300 page brief filed with the Court on behalf of the Beaver Water District which analyses the testimony of all the witnesses in great detail, and in my judgment supports the conclusion hereinabove reached by the Court.

There are several other factors which give the Court additional confidence in the validity of its decision in this matter. They are that several sources of phosphorous in the state of Arkansas will have their phosphorous emissions reduced by approximately 50% when their new sewage treatment plants come on stream in the near future. This factor will substantially reduce the nutrient loading in the Illinois River both in the State of Arkansas and as it crosses the state border into the State of Oklahoma. The other factor is the protective language placed in the permit at the request of the Oklahoma parties to the effect that if the joint study to be conducted between EPA, Arkansas and Oklahoma in the future indicates that there is some significant impact on the water quality of the State of Oklahoma due to the discharge from the Fayetteville water sewage treatment plant into the Illinois River basin that the discharge will either cease or additional treatment will be requirement in order to make it comply with such standards. These two factors add to the weight which I have accorded the testimony of the witnesses in this matter and provide further assurances to the citizens of Oklahoma, in my judgment, that the water quality in their State will not be adversely affected by the discharge from the City of Fayetteville sewage treatment plant.

CONCLUSION

Based upon the entire record in this case, which consists of the Administrative Record, the Testimony and Exhibits of the Witnesses, the Transcript and the Briefs of the Parties, I am of the opinion that the proposed discharge of the sewage treatment plant of the City of Fayetteville, Arkansas will not have an undue impact on interstate waters or violate the applicable water qual-

ity standards of the State of Oklahoma. The permit therefore should be issued and not denied.

Dated: 1/12/88

/s/ Thomas B. Yost THOMAS B. YOST Administrative Law Judge

APPENDIX G

U.S. ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C.

NPDES Appeal No. 88-1

In the Matter of:

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT FOR CITY OF FAYETTEVILLE, ARKANSAS NPDES Permit No. AR00200710

ORDER ON PETITIONS FOR REVIEW

The Attorney General of the State of Oklahoma (on behalf of various Oklahoma parties), "Save the Illinois River" (STIR), and the Oklahoma Wildlife Federation have each petitioned for review of a January 12, 1988 Initial Decision upholding an NPDES permit. EPA Region VI issued the permit to the City of Fayetteville, Arkansas, under the Clean Water Act, 33 U.S.C.A. §§ 1251-1376 (CWA), for discharges from the City's sewage treatment plant. Region VI and various Arkansas parties have filed responses opposing the petitions for

review.² The three petitions together raise a variety of issues, but only two issues warrant discussion: (1) whether the ALJ properly dismissed the issue of the ability of the new plant technology to ensure compliance with the permit; and (2) whether the ALJ applied the proper legal standard in deciding whether discharges under the permit would violate Oklahoma's water quality standards.

For the reasons set forth below, review of the ALJ's dismissal of the technology issue is denied. I agree with Petitioners, however, that the ALJ applied the wrong legal standard. I am therefore remanding this proceeding for a determination of whether discharges under the permit will result in a detectable violation of the applicable water quality standards. Petitioners' remaining arguments fail to show clear error or that the Initial Decision otherwise warrants review under 40 CFR § 124.91, and I reject them for the reasons set forth in the reply briefs filed by Region VI and the Arkansas parties.³

BACKGROUND

On November 5, 1985, Region VI issued an NPDES permit to Fayetteville to discharge treated sewage efflu-

¹ See Oklahoma's "Notice of Appeal and Petition for Review" (Feb. 18, 1988); "Petition for Review By Save the Illinois River (STIR)" (Feb. 16, 1988); Oklahoma Wildlife Federation's "Notice of Appeal and Petition for Review" (Feb. 18, 1988).

The Oklahoma Wildlife Federation adopted in full and incorporated by reference the Notice of Appeal and Petition for Review filed by the Oklahoma Attorney General.

² See EPA Region VI Reply Brief to the Petition for Review Filed by Save the Illinois River (STIR) (March 2, 1988); EPA Region VI Reply Brief to the Petition for Review filed by the Oklahoma Attorney General (March 4, 1988); Response of BWD to Notice of Appeal and Petition for Review Filed on Behalf of STIR (March 4, 1988); Response of BWD, the Arkansas Attorney General, ADPC & E, and the City of Fayetteville to Notice of Appeal and Petition for Review filed by the Oklahoma Attorney General (March 8, 1988).

³ Specifically, I reject Petitioners' arguments regarding the designation of the Illinois River as a scenic river under Oklahoma law; the notice requirements of 33 U.S.C.A. § 1341; the ALJ's conclusions on assimilation; and the ALJ's references to a 1984 letter opinion by the Oklahoma Department of Health, to future pollutant reduction by other dischargers, and to certain protective language in the permit regarding a future joint study of the Illinois River by Arkansas, Oklahoma, and EPA.

ent into the White River and, for the first time, into Mud Creek, a tributary of the Illinois River. The existing NPDES permit authorizes discharge into the White River only. The treated effluent to be discharged into Mud Creek would travel approximately 39 miles in Arkansas before entering Oklahoma. The discharge into the White River is not at issue in this proceeding.

On January 10, 1986, EPA Region VI granted a request by Oklahoma and STIR for an evidentiary hearing and designated two issues to be tried. The hearing was held on August 18-20, 1987, and the ALJ issued an Initial Decision upholding the permit on January 12, 1988. These petitions for review followed.

Letter from D. Whittington, Regional Administrator, U.S. EPA Region VI to S. Drake, Oklahoma Assistant Attorney General (Jan. 10, 1986).

The City of Fayetteville petitioned the Administrator for review of the grant of a hearing on these two issues, but his delegate, a Judicial Officer, held that the Regional Administrator's decision was not subject to review. See Order Denying Review, at 4 (May 23, 1986). The Judicial Officer also denied the Oklahoma parties' petitions for review of the Regional Administrator's refusal to designate other issues for hearing. Id. at 4-8.

⁸ STIR originally moved for reconsideration and reopening of the evidentiary hearing. The Chief Judicial Officer denied the motion because EPA's procedural rules make no provision for such relief. See Letter from R. McCallum to E. Edmondson (Feb. 8, 1988).

DISCUSSION

The regulations do not confer an automatic right to review of an initial decision in an NPDES permit proceeding. See 40 CFR § 124.91. A petition for review is generally granted only when the initial decision is clearly erroneous (legally or factually) or involves an exercise of discretion or policy that is important and should be reviewed by the Administrator. Kerr-McGee Nuclear Corporation (Church Rock Facility), NPDES Appeal No. 80-3 (May 15, 1980); Boston Edison Company, NPDES No. 78-7 (August 28, 1978). The party requesting review bears the burden of demonstrating that review should be granted. Id.

A. The Technology Issue

The Regional Administrator granted Oklahoma's request for an evidentiary hearing on the issue of whether the new technology to be used at the plant would be sufficient to meet the effluent limits set forth in the permit. Prior to the hearing, Region VI and the Arkansas parties moved for summary determination under 40 CFR § 124.-84.6 By order dated May 13, 1987, the ALJ dismissed the technology issue, stating that "[s]ince EPA cannot order the application of any specific technology, the issue of whether or not the chosen technology will meet the limits imposed by the Permit is not a legitimate permit issue." Order on Motions, at 7 (May 13, 1987). STIR and Oklahoma now request review of this ruling.

Petitioners have failed to show that the ALJ's dismissal of the technology issue is clearly erroneous or otherwise warrants review. From its inception, the heart of the NPDES permit program has been the specification

⁴ The Regional Administrator articulated the issues as follows:

The factual issue of whether or not the discharge from the City of Fayetteville's NPDES permit AR0020010 will violate the Oklahoma Water Quality Standards * * *.

The utilization of technology that is untested at the level of proposed usage by the City of Fayetteville and issues regarding the plant's ability to satisfactorily treat waste water raised in Fayetteville's own pilot plant study summary.

⁶ Although the Arkansas parties characterized their motion as a "Motion to Dismiss," the ALJ concluded that it was "more akin to a motion for summary determination" and treated it as such. Order on Motion, at 1 (May 13, 1987).

of effluent limits sufficient to ensure various levels of protection,7 not particular technologies to meet such limits. A preference for this approach is implicit in the terms and structure of the CWA itself, which requires the achievement of "effluent limitations," not the use of specific technologies. 33 U.S.C.A. § 1311(b). The Act's legislative history similarly reflects the desire of the Congress that permittees be free to explore diverse treatment techniques, processes, and equipment. See, e.g., S. Rep. No. 414, 92d Cong., 1st Sess. 59 (1971); H.R. Rep. No. 911, 92d Cong., 2d Sess. 107 (1972). In the words of one commentator, "[t]he rule established * * * in connection with EPA's establishment of effluent standards is clear: The administrator is to set the required effluent levels, and the dischargers are free to meet those levels with whatever technical means are available." R. Zener, The Federal Law of Water Pollution Control, in Federal Environmental Law 706-707 (ELI ed. 1974).

The ALJ arguably overstated the case in asserting that the Agency has no authority whatsoever under the CWA to order the application of particular technology.8 As a matter of policy, however, the Agency has routinely declined to specify treatment equipment or techniques in

NPDES permits. Although the Regional Administrator initially designated the technology issue, the ALJ has the authority to simplify, limit, and strike issues to expedite the hearing. See 40 CFR §§ 124.83(c)(1), 124.84, and 124.85(b)(4). By eliminating the technology issue, the ALJ properly exercised his discretion to focus the hearing on the core inquiry compelled by the Act: whether the Fayetteville discharges under the permit will comply with Oklahoma's water quality standards.

Oklahoma and STIR rely on Montgomery Environmental Coalition v. Costle, 646 F.2d 568 (D.C. Cir. 1980) (MEC), in opposing the ALJ's ruling. MEC, however, is distinguishable. That case involved, inter alia, an NPDES permit for discharges from the Blue Plains Sewage Treatment Plant into the Potomac River. Publicinterest petitioners contended that the plant could not handle the sewage flowing into it during periods of heavy rainfall, and that partially treated or untreated sewage was therefore being discharged into the Potomac. Id. at 585. The petitioners requested the EPA to consider adding permit conditions requiring diversion of excess flow to land treatment. Id. Although the ALJ excluded evidence on this point, the D.C. Circuit concluded that such evidence was relevant and should have been received. Id. at 589. Noting that the CWA requires compliance not only with secondary treatment standards, but also with applicable water quality standards, the Court held that the excluded evidence was necessary to determine whether the permit would ensure compliance with these standards. Id.

STIR's allegations regarding the deleted technology issue superficially resemble those addressed in *MEC*, but there is a crucial distinction. In *MEC* the permit itself allowed discharges of untreated sewage through 58 overflow points when flow exceeded plant capacity. See *MEC*, 646 F.2d at 583, 589. Thus, consideration of the land treatment alternative was deemed to be directly within

⁷ The CWA requires two basic kinds of effluent limits: water-quality based limits and technology-based limits. See 33 U.S.C.A. §§ 1311-18. As applied to publicly owned treatment works like the Fayetteville plant, the technology-based standards are derived by reference to secondary treatment. Id. § 1311(b)(1)(B). The only limits at issue in this case are those based on Oklahoma's water quality standards.

⁸ For recent, somewhat inconsistent statements on this issue, compare Natural Resources Defense Council, Inc. v. EPA, 822 F.2d 104, 122 (D.C. Cir. 1987) (EPA empowered "to prescribe as wide a range of permit conditions as the agency deems appropriate in order to assure compliance with applicable effluent limits") with id. at 123 (policy to avoid requiring specific technologies is "articulated in the legislative history, although not in the Act itself") and id. at 124 (suggesting that "agency may not prescribe technology in specific cases").

the scope of deciding whether the permit (in contrast to the plant's technology) assured compliance with applicable water quality standards. Here, however, the permit prohibits any untreated discharges into Mud Creek. By its terms it ensures that excess flow will not violate Oklahoma's water quality standards. Adding a condition specifying land treatment for excess flow would not enhance this protection, but would serve only to limit Fayetteville's choices in dealing with potential excess flow situations.

The purpose of an NPDES hearing is to determine whether the permit comports with the CWA. Speculation that Oklahoma's water quality standards might be impaired by permit violations (as opposed to being impaired by the permit itself, as in MEC) is thus outside the scope of this proceeding. Such concerns are adequately addressed by the EPA's enforcement authority, as well as by the threat of citizen suits under 33 U.S.C.A. § 1365. Even with a land treatment condition in the permit, a city might violate the CWA by discharging untreated sewage into protected water; issuing a permit specifically prohibiting such discharges does not increase the likelihood that such violations will occur.

Moreover, there is no reason to assume that Fayetteville would risk sanctions for noncompliance by discharging incompletely treated excess flow into Mud Creek. Indeed, the December 1987 overflow—evidence of which STIR seeks to introduce in this proceeding—did not result in discharges into Mud Creek, but into White River (which is unaffected by Oklahoma's water quality standards). 10 If capacity at the new plant proves to be a serious problem, Fayetteville might well have to consider alternative technologies to comply with the permit. It is unnecessary, however, to explore the excess flow issue in this proceeding because the permit as written does not jeopardize Oklahoma's water quality standards insofar as excess flow is concerned.¹¹

B. The Proper Legal Standard

The basic issue in this case is whether the Fayetteville discharge will violate Oklahoma's water quality standards. The ALJ held that the appropriate legal stand-

¹¹ In arguing that the ALJ improperly deleted the technology issue, STIR contends that he also wrongly excluded evidence regarding affiliations between the corporation that designed the plant and the corporation that will operate the plant. Even if the technology issue had been retained, however, it would be difficult to discern the relevance of these corporate ties. The ALJ committed no error in excluding this evidence.

Prior to his deletion of the technology issue, the ALJ refused to add an issue regarding whether land treatment "must be utilized as the most environmentally sound method of treatment to protect both the Illinois and White Rivers." Order, at 2 (Sept. 17, 1986). Oklahoma requests review of this ruling, arguing that because the new plant technology is inadequate to meet the permit effluent limits, the land treatment alternative should have been explored at the hearing. As discussed above, however, the only genuine issue in this proceeding is whether the effluent limits and other conditions in the permit are sufficient to protect the water quality standards. Because the technology issue was properly deleted, evidence regarding land treatment is likewise irrelevant.

¹² Oklahoma's EPA-approved water quality standards include a narrative "anti-degradation policy," which provides:

The intent of the Anti-degradation Policy is to protect all waters of the State from quality degradation. Existing instream water uses shall be maintained and protected. No further water quality degradation which would interfere with or become injurious to existing instream water uses shall be allowed. Oklahoma's waters constitute a valuable State resource and shall be protected, maintained and improved for the benefit of all the citizens.

⁹ See NPDES Permit No. AR0020010, Part III, Section A.2.b (Nov. 5, 1985) ("Effluent which has not received complete treatment * * * shall not be discharged to Mud Creek * * *. During periods of short-term noncompliance with effluent limitations ('upsets'), no effluent shall be discharged to Mud Creek.")

¹⁰ See STIR's "Motion for Reconsideration and Reopening Evidentiary Hearing" (Exh. B) (Jan. 28, 1988).

ard was not one of strict compliance with these standards, but rather "whether or not the discharge will have an undue impact on interstate waters." Initial Decision at 8 (emphasis added). In adopting this test, the ALJ relied on dicta from International Paper Co. v. Ouelette, 107 S. Ct. 805 (1987), which states that the Administrator may disapprove a state-issued permit if he concludes that it will have an "undue impact on interstate waters." Id. at 811. Noting that the Supreme Court did not define "undue impact" in Ouellette, the ALJ turned to cases interpreting the Clean Air Act (CAA) to determine the meaning of this phrase. This led him to conclude that a de minimis exception, applied under the CAA, should also be applied under the CWA. Initial Decision at 9. STIR and Oklahoma argue that the ALJ's reliance on Ouellette and on case law under the CAA was clearly erroneous. I agree.

The CWA requires an NPDES permit to impose any effluent limitations necessary to comply with applicable state water quality standards: 13

No degradation shall be allowed in high quality waters which constitute an outstanding resource or in waters of exceptional recreational or ecological significance. These include water bodies located in National and State parks, Wildlife Refuges and those designated "Scenic Rivers" in Appendix A.

EPA's Statement Regarding Status of Water Quality Standards (Attachment) (August 29, 1986). The Illinois River at the Oklahoma/Arkansas state line is designated as a scenic river under Oklahoma law. Initial Decision at 5.

In order to carry out the objective of this chapter there shall be achieved * * * any more stringent limitation, including those necessary to meet water quality standards * * * established pursuant to any State law or regulations (under authority preserved by section 1370 of this title) * * * or required to implement any applicable water quality standard established pursuant to this chapter.

33 U.S.C.A. § 1311(b) (1) (C).¹⁴ The meaning of this language is plain and straightforward. It requires unequivocal compliance with applicable water quality standards, and does not make any exceptions for cost or technological feasibility.¹⁵ More to the point, it calls for greater protection of water quality than the Supreme Court's "undue impact" dicta implies.

Nonetheless, a mere theoretical impairment of Oklahoma's water quality standards—i.e., an infinitesimal impairment predicted through modeling but not expected to be actually detectable or measurable—should not by itself block the issuance of the permit. In this case, the permit should be upheld if the record shows by a preponderance of the evidence that the authorized discharges would not cause an actual detectable violation of Oklahoma's water quality standards.¹⁶

^{12 [}Continued]

of the preemptive effect of the CWA on state law, the only applicable water quality standards are those that have been approved by the EPA under the CWA. See Illinois v. City of Milwaukee, 731 F.2d 403, 413-14 (7th Cir. 1984), cert. denied, 105 S. Ct. 980 (1985). Thus any water quality standards that have not been federally approved are irrelevant here. In cases that do not involve interstate disputes, however, the source state may impose more stringent non-EPA-approved water quality standards in NPDES permits under 33 U.S.C.A. § 1370. Id.

¹⁴ See also id. § 1341(a) (2) ("[i]f the imposition of conditions cannot insure such compliance [with applicable water quality standards] such agency shall not issue such license or permit.") EPA's regulations likewise provide that no permit may be issued when the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected states. 40 CFR § 122.4(d).

¹⁵ See United States Steel Corp. v. Train, 556 F.2d 822, 838 (7th Cir. 1977) ("[T]he states are free to force technology * * *", and "[i]f the states wish to achieve better water quality, they may [do so], even at the cost of economic and social dislocations * * *.")

¹⁶ The element of detectability is implied in EPA's regulations, which specify the conditions that must appear in an NPDES permit. For example, 40 CFR § 123.44(c) states that one of the

It would be improper, however, to characterize the required showing as implying the existence of either an "undue impact" or "de minimis" test. The phrase "undue impact" wrongly implies a reasonableness standard, i.e., that violations of water quality standards may be tolerated if justified by the totality of the circumstances. The phrase "de minimis" incorrectly suggests that only "significant" violations are prohibited. The showing that must be made here implies neither a reasonableness standard nor a significance test, but instead is directed at the quantity and quality of the evidence relating to whether a violation would occur.

The ALJ's reliance on the "undue impact" and "de minimis" standards was not only inconsistent with the CWA, but was also a misapplication of precedent. Ouellette, from which he derived the "undue impact" standard, was a common-law nuisance action in which Vermont landowners sued a New York paper mill discharging pollutants into Lake Champlain. 107 S. Ct. at 807. The specific requirements of the CWA as they relate to NPDES permits were not directly at issue. Admittedly, the Court stated in dicta that the Administrator may

grounds on which EPA may object to a state-issued NPDES permit is that "[t]he permit fails to * * * ensure compliance with any applicable requirement * * *." In interpreting this language, one court observed: "Clearly, unless there is some method for measuring compliance, there is no way to ensure compliance." Champion International Corp. v. North Carolina, 648 F. Supp. 1390, 1395 (W.D.N.C. 1986) (Champion I). The court upheld EPA's objection to a state-issued NPDES permit on grounds that the permit failed to include the methodology for judging compliance (specifically, compliance with an effluent limitation designed to ensure compliance with a narrative state water quality standard for color). There are similar regulations for EPA-issued NPDES permits. E.g., 40 CFR § 122.43(a) (permits shall contain "conditions * * * to provide for and assure compliance with all applicable requirements * * and regulations"); 40 CFR § 122.44(i) (permits shall include "monitoring requirements " * " [t]o assure compliance with permit limitations * * *.")

disapprove a state-issued NPDES permit under 33 U.S.C.A. § 1342(d) (2) if he concludes the discharges will have an "undue impact" on interstate waters. Id. at 811. This dicta, however, was not an attempt at a precise definition of a specific substantive standard under the Act, but was merely a loose characterization of the procedures in Section 1342 that allow an affected state to object to a proposed NPDES permit. (Indeed, the dicta in no way suggests that the Administrator is powerless to disapprove a permit if the discharge would have less than an "undue impact" on interstate waters.) The ALJ's extension of the Ouellette dicta to the instant case is in direct conflict with the clear language of Section 1311(b)(1)(C), which requires achievement of effluent limitations necessary to meet applicable water quality standards. While statements made by the Supreme Court, even in dicta, should not be lightly ignored, neither should they be taken out of context and used to dilute express statutory requirements.17

Regarding the ALJ's use of CAA case law, he correctly observed that the CAA and the CWA have a similar goal, namely, protection of the environment; however, the de minimis standard used under the CAA is based on statu-

¹⁷ The ALJ also cited the case of Champion International Corporation v. EPA, 652 F. Supp. 1398 (W.D.N.C. 1987) (Champion II), as reinforcing his interpretation of Onellette. In Champion I, 648 F. Supp. 1390 (W.D.N.C. 1986), North Carolina and permittee brought an action challenging EPA's assumption of North Carolina's NPDES permitting authority. The Court ruled in EPA's favor in part because the permit failed to require compliance with the water quality standards of Tennessee, an affected state. Id. at 1399. In Champion II the court merely held that nothing in Onellette required modification of its holding in Champion I. 652 F. Supp. at 1399-1400. Although the court did mention the Onellette "undue impact" dicta (id.), it did so without extensive analysis of the statutory requirements. To the extent Champion II can be read as applying the undue impact standard, it is in direct conflict with the clear language of the Act, and I decline to follow it in this case.

tory language strikingly different from that in the CWA. The CAA requires each major new source to notify nearby states only where it "may significantly contribute" to pollution in excess of national ambient air quality standards outside the source state. See 42 U.S.C.A. § 7426(a) (emphasis added). In contrast, the CWA requires unequivocal compliance with applicable water quality standards of an affected state. See 33 U.S.C.A. § 1311(b)(1)(C).

Unfortunately, I cannot treat the ALJ's use of the "undue impact" and "de minimis" standards as harmless error. In his Initial Decision, he stated that the permit's impact on Oklahoma's water quality would be immeasurable "in most cases." ¹⁸ If he had found that the impairment would be immeasurable in all cases, it would be unnecessary to remand the case. As written, however, the Initial Decision suggests that in some cases the impairment might be detectable, thus violating the Act.

Applying the proper standard on remand, the ALJ should decide whether the permit will result in a detectable violation of the applicable water quality standards. Due to the conflicting testimony in this case, it is important for the ALJ to provide detailed findings. The ALJ should identify which applicable water quality standards, if any, would be violated by the permitted discharge. At a minimum, the ALJ should expressly determine whether the permit must be conditioned to prevent water quality standard violations during periods of low flow. Cf. Transcript pp. 369, 432-33, 702-03. He should also ex-

plicitly decide whether nitrogen and phosphorus in the discharge will measurably degrade Oklahoma water quality. If so, he should also consider whether any conditions can be added to the permit to protect Oklahoma's water quality standards.

Ordinarily, the grant of a petition for review results in further briefing on appeal to facilitate full review. Here, however, it is unlikely that additional briefing on the proper legal standard would alter the ultimate disposition of this issue. Therefore, no briefing schedule will be set at this time. The parties will have the opportunity to petition for review of the ALJ's decision on remand. If they so desire, they can fully brief the legal standard issue at that time.

In the interest of a prompt resolution of this case, the ALJ is directed to issue a decision on remand within 60 days of the date of this order. If more time is needed, he may request an extension from the Chief Judicial Officer for good cause shown.

So ordered.

/s/ Mary Jane Agnew for RONALD L. McCALLUM Chief Judicial Officer

Dated: June 28, 1988

¹⁸ Initial Decision at p. 10. The ALJ stated:

[[]T]he Oklahoma expert witnesses testified that the results of their mathematical modeling studies suggested that there would be some impact on the Oklahoma Water Quality Standards due to the discharge from the Fayetteville sewage treatment plant. However, on cross-examination all of the witnesses testified that in most cases the changes which their models predicted would occur would in a real life situation be practically unmeasurable and undetectible.

APPENDIX H

BEFORE THE ADMINISTRATOR U.S. ENVIRONMENTAL PROTECTION AGENCY

NPDES Appeal No. 88-1

In the Matter of:

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT FOR

CITY OF FAYETTEVILLE, ARKANSAS

NPDES Permit No. AR00200710

DECISION ON REMAND

This matter is before me on a Remand issued by the Judicial Officer on the basis that in my Initial Decision, previously issued, I utilized the wrong standard in deciding the case. The Judicial Officer ruled that use of an "undue impact" and "de minimis" standard was improper under the terms of the Clean Water Act. The Judicial Officer also instructed me as follows:

"Applying the proper standard on remand, the ALJ should decide whether the permit will result in a detectable violation of the applicable water quality standards. Due to the conflicting testimony in this case, it is important for the ALJ to provide detailed findings. The ALJ should identify which applicable water quality standards, if any, would be violated by the permitted discharge. At a minimum, the ALJ should expressly determine whether the permit must be conditioned to prevent water quality standard violations during periods of low flow. Cf. Transcript pp. 369, 432-33, 702-03. He should also explicitly decide whether nitrogen and phosphorous in the dis-

charge will measurably degrade Oklahoma water quality. If so, he should also consider whether any conditions can be added to the permit to protect Oklahoma's water quality standards."

There is also before me a Motion filed on behalf of STIR seeking Reconsideration and Reopening the Evidentiary Hearing. This Motion is DENIED because its attempts to explore the issue of plant technology and operation which was excluded from this proceeding by the Court in a Pre-Hearing Order which was upheld by the Judicial Officer at page 9 of his Order. Additionally, the Rules of Practice applicable to these proceedings make no provision for such relief. (See Footnote No. 5 of the Judicial Officer's Order.)

Although not wishing to engage in a battle of semantics with the Judicial Officer, my notion of the use of the de minimus principal is in accord with his position on the proper standard to be used in reviewing the record in this matter, "i.e., an infinitestimal impairment perdicted by modeling but not expected to be actually detectable or measurable."

Before discussing the question of whether or not any Oklahoma standard will be violated when the treatment plant comes on line, it is necessary to address several legal threshold issues proffered by the Arkansas parties.

The first question presented is which of Oklahoma's water quality standards apply to this case. The Arkansas parties argue that the 1982 standards should apply. In support of this position they say that the facility was designed, tested and built to meet the 1982 standards and it would not be proper or fair to now decide that the 1985 standards must be met. They argue that the permit was issued based upon compliance with the 1982 standards, which were the only ones in effect, and in fact the 1985 standards were only approved after the hearing in this matter had been proceeding for several months.

No authority to support this position was provided, relying instead on basic notions of equity and fairness. Although I sympathize with the equitable argument proffered, I am of the opinion that the facility must meet the water quality standards in effect at the time of the commencement of its operation, *i.e.*, the 1985 standards.

The Arkansas parties also contend that the Oklahoma "beneficial use" or "new source" standard does not and cannot apply to a discharge in the state of Arkansas. They argue that any other construction would be contrary to the plain meaning of the Oklahoma water quality standards (W.Q.S.). In support of this position they direct my attention to the definition of "waters of the State of Oklahoma" contained in Section 2 of the 1982 and 1985 W.Q.S. which states that such waters are defined as "[A] ll streams, lakes . . . and all other bodies or accumulations of water which are contained within. flow through, or border upon this State or any portion thereof . . ." (emphasis supplied). Based upon this definition they contend that the standards are only applicable to waters within the State of Oklahoma and cannot apply to a new point discharge into tributaries such as Mud Creek and Clear Creek which are not contained within, flow through, or border the State of Oklahoma.

They argue that to allow such standards to apply to a discharge in the State of Arkansas would violate the Clean Water Act (CWA) for two reasons. First, the Act requires all states to adopt W.Q.S. applicable to intrastate waters. (33 U.S.C. § 1313(3)(A)) Citing this authority they say that Oklahoma has no authority to enact W.Q.S. that apply to waters outside the State of Oklahoma. Second, under the CWA, affected states may not establish a separate permit system to regulate an out-of-state source, but may only establish a permit system for waters within its jurisdiction, (33 U.S.C. § 1342(b)); State v. Champion International Corp., 709 S.W. 2d 569 (Tenn. 1986). They then argue that to allow the State

of Oklahoma to impose its "no new point source discharge" standard on a discharge in another state is, in effect, allowing the State of Oklahoma to establish a separate permitting system for discharges in another state, a position contrary to the intent and purposes of the CWA.

The Arkansas parties also argue that a plain reading of the 1985 Beneficial Use Limitation is inapplicable to the Fayetteville discharge. That section states that:

"All streams and bodies of water designated as (a) in Appendix A are protected by prohibition of any new point source discharge which increases pollutant loading or increased load from an existing point source. All stream segments designated in Appendix A as "scenic river" and the tributaries of those stream segments are designated as (a) . . ." (Section 7.11. 1985 W.Q.S.)

They contend that since the tributaries into which Fayetteville proposes to discharge are not located in the State of Oklahoma, that the standard does not on its face apply to a point source that originates in another state.

As to the CWA arguments, supra, I am of the opinion that they must fail. It is clear that an out-of-state source must meet the W.Q.S. of another downriver state. See § 401(a)(2) of the CWA; 40 C.F.R. §§ 122.4 (D) and 122.44(d)(4); International Paper Co. v. Oullette, 93 L.Ed. 883 (1987). Therefore the Fayette-ville discharge must meet Oklahoma's W.Q.S. as they exist at the border of the two states. I further find that such W.Q.S. do not amount to an attempt to establish a separate system for out-of-state sources since they apply equally to Oklahoma sources. No separate standards applying only to out-of-state sources has been established by Oklahoma.

As to the Arkansas parties argument that the Beneficial Use Limitations do not apply to the Fayetteville discharge, it too must be rejected. To accept such an argument would violate the principals set out above since it is premised on the notion that such standards only apply to sources located in the State of Oklahoma. There is no factual issue among the parties that the Illinois River at the border of the two states is a Class (A) River and therefore the standards applicable to pollution crossing that border must comply with Oklahoma's W.Q.S. as they exist at that point. Any other interpretation would allow a source to locate its discharge just across the line in Arkansas and freely violate the Oklahoma standards. Such a result is contrary to the abovecited statutes, regulations and Court decisions.

I will now address the issue as to whether or not the Fayetteville discharge will violate the relevant Oklahoma standards using the interpretation mandated by the Judicial Officer's Remand.

The 1985 Beneficial Use Limitation, cited above, does not define "Pollutant Loading" but the O.W.Q.S. do define "Pollution" as follows:

"Contamination or other alteration of the physical, chemical or biological properties of any natural waters of the State, or such discharge of any liquid, gaseous or solid substance into any waters of the State as will or is likely to create a nuisance or render such waters harmful or detrimental or injurious to public health, safety or welfare, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wild animals, birds, fish or other aquatic life. (82 O.S. 1981, section 926.1(1).)"

Using this definition, the Oklahoma parties must show by substantial evidence that the City's discharge will create a nuisance or render the Illinois River in Oklahoma harmful, detremental or injurious to any beneficial use of the river. I will now inspect the various W.Q.S. to determine if the City's discharge will cause the 1985 Beneficial Use Limitation to be violated.

NUTRIENTS

Section 7.10(b) of the Oklahoma W.Q.S. provides that:

"[T]he total phosphorus concentration and the nitrogen/phosphorus concentration ratio will not be increased to levels which result in man induced eutrophication problems."

Nutrients are defined as "[e]lements of compounds essential as raw materials for organisms growth and development; these include carbon, oxygen, nitrogen and phosphorus."

Eutrophication is defined as:

"[T]he normally slow aging process by which a lake evolves into a bog or marsh and ultimately assumes a terrestrial state. During eutrophication the lake becomes so rich in nutritive compounds (especially nitrogen and phosphorus) that algae and other microscopic plant life become superabundant, thereby "chocking" the lake, and causing the lake to advance in serial stages."

It is therefore apparent that the W.Q.S. require a showing that the increases in phosphorus concentrations and phosphorus/nitrogen ratios attributable to the City's discharge will cause eutrophication problems in lakes located in Oklahoma. In this case we are only concerned with Lake Francis and Lake Tenkiller and not with free flowing streams in Oklahoma.

The new plant in Fayetteville is required by the permit at issue here to limit its discharge of phosphorus to one milligram per liter per day. Based upon the average daily flow of the plant of 7.0 mgd its discharge to Mud

Creek will be 3.5 mgd when it comes on line and at design capacity in the year 2005 it will release 6 mgd into Mud Creek.

The Arkansas parties argue with some vigor that the Oklahoma witnesses have not taken into account the additional reduction in phosphorus discharges into tributaries of the Illinois River by some cities in Arkansas which are in the process of constructing new sewage treatment plants. They conclude that at the present, without the proposed Fayetteville discharge, approximately 750 lbs. per day of phosphorus is discharged by Arkansas entities into the Illinois River basin. The sources are the cities of Springdale, Rogers and Siloam Springs in Arkansas. When the Fayetteville plant comes on line it will contribute 30 lbs/day of phosphorus and in the year 2005, 55 lbs/day. They say that the record reflects that when all of the new plants come on line there will be 54% reduction of total phosphorus loading to the Illinois River basin (Arkansas ex. No. 1, pp. 5-6; Arkansas ex. No. 4, p. 8). They argue that, in view of these large reductions in nutrients, there cannot be any measurable eutrophication in Lake Francis or further downstream in Lake Tenkiller. They argue that since the Oklahoma nutrient standard only prohibits increases on total nutrients that will then cause eutrophication in lakes, there can be no violation of the nutrient standard because of the 54% decrease in nutrients entering the River system. I will address this argument later.

The Arkansas parties also argue that the standard will not be violated due to the assimilation of nutrients both above and below Lake Francis. The 1985 O.W.Q.S. define assimilation as "[T]he amount of pollution a stream can receive and still maintain the W.Q.S. designated for that stream." (Oklahoma ex. No. 6. p. 95). The mechanisms that are involved in the assimilation process are found at pp. 308 and 319 of the Transcript.

The argue that the increase in flow to the River system resulting from the City's discharge will increase the assimilative capacity of the system by enlarging the ecosystem. The record reflects that this phenomenon is most effective at periods of low flow in the involved rivers and creeks. (p. 309 Transcript). Since low flows tend to occur during the summer months when the growth of algae are of the most concern, the assimilative processes is at its most effective stage and therefore removes more nutrients upon which the algae feed before they reach the Oklahoma border. Of the total nutrients contained in the Fayetteville discharge, it is estimated that only 20-25% would be available by the time it reaches the Oklahoma border (pp. 311-312 Transcript). Therefore of the approximately 30 lbs. of phosphorus released, only 6 lbs/ day would be bio-available to organisms over the Oklahoma border.

Other studies reinforce the existence and magnitude of the assimilative capacity of the River system in Arkansas prior to reaching the border with Oklahoma. The ADPC and E modeling shows a 70 to 75% reductions in phosphorus in the River basin system prior to the Oklahoma border. (Arkansas ex. No. 4, p. 8; p. 315 of Transcript). Dr. Thompson testified that the addition of Fayetteville's effluent would only increase the total phosphorus loading to Lake Francis by 2.4%. (Fayetteville ex. No. 3, p. 2). The record also reflects a substantial amount of assimilation in the 50 mile stretch of the Illinois River between Lake Francis and Lake Tenkiller. A survey of this River portion done by Oklahoma for the years 1975-1977 reflect an 80% reduction of phosphorus and a 70% reduction in nitrogen between these two points.

There is a lack of substantial evidence to support the notion that the small increases in phosphorus or the nitrogen/phosphorus ratios would result in an increase in eutrophication of the lakes involved.

Page 369 of the Transcript, to which the Court's attention was directed by the Chief Judicial Officer (CJO). involves the testimony of Dr. Threlkeld, an Oklahoma expert witness, wherein he postulates that it would be theoretically possible to measure the 30% increase in phosphorus loading to Lake Francis caused by the City's discharge. In my opinion, mere theoretical measurements alone do not constitute proof and in any event Dr. Threlkeld could not testify that this increase would increase the levels of euthrophication of the Lake presently occurring. The same is true as to the testimony of Dr. Schornick, another Oklahoma expert, which appears on pages 432-33 of the Transcript. The testimony is flawed for two reasons. Firstly, it is based upon an assumption that the treatment plant will release water containing a 1.8 mpd of phosphorus which is almost twice the amount mandated by the permit, i.e., 1 mpd. Secondly, the witness in testifying that it would be possible to measure this inflated amount of phosphorus, testified on page 433 that under both low and high flow scernarios such measurement amounted to mere "speculation" on his part. I am therefore of the opinion to assign no substantial weight to this testimony. Additionally, Dr. Schornick could not testify that the minute increases involved would violate the Oklahoma W.Q.S. by causing an increase in maninduced eutorphication in the Lake. I am of the opinion that the mere likelihood of being able to measure a difference alone is insufficient to show a violation absent a showing that such increases will cause increased. eutrophication.

The Court's attention is also directed to the testimony of Dr. Walker, appearing on pages 702-703 of the Transcript. In this portion, Dr. Walker testifies that one could not measure the increases in phosphorus which his modeling perdicted. He did however say that one could measure an increase in nitrogen. The increase which he spectulated would occur, allowing for a 50% assimilation rate, was 300 parts per billion, clearly a minute change.

Dr. Walker then ventured into areas outside of his field of expertise by positing that this would violate the Oklahoma W.Q.S. since it demonstrated a measurable increase. As I indicated earlier, a mere measurable increase alone is not sufficient to cause a violation of the standard. This notion is reinforced by Dr. Walker's earlier testimony at pp. 692-93 of the Transcript wherein he testified that such increases would not cause a change in algae growth, taste, odor or turbitidy. Another problem with Dr. Walker's testimony is that the parameter which he said could be measured was nitrogen and not phosphorus. The record reflects that it is phosphorus availability and not nitrogen which controls the algae growth in the River system. See the testimony of Dr. Gakstatter and the intensive survey of the Illinois River (1985). Dr. Gakstatter was not cross-examined by the Oklahoma parties and his testimony was unrefuted by other witnesses.

Dr. Schornick was of the opinion that Lake Francis no longer acts as a nutrient trap (Transcript pp. 423-24). However, the data and reports included in his testimony indicate (1) that there is a substantial decrease in phosphorus above as compared to immediately below Lake Francis and (2) that in the 55 mile stretch of River from Lake Francis to Lake Tenkiller, additional assimilation of phosphorus takes place at a substantial rate. On cross-examination Dr. Schornick admitted that all of the phosphorus below Lake Francis would be assimilated out by the time it reached Lake Tenkiller (Transcript pp. 466-67).

Dr. Walker's testimony on the increase in phosphorus in Oklahoma resulting from the Fayetteville discharge are flawed because he failed to take into account any assimilation thereof either in Arkansas or Oklahoma. Additionally, Dr. Walker's Basin Wide Mass Balance Calculations in Tables 5, 6 & 7 are based upon the output of the plant in the 20 year design flow in 2005 and do not

apply to the year the permit actually goes on line. Although the Arkansas parties did not specify when the new treatment plants at the three Arkansas cities will come on stream, the implication was that it would be imminent. There is no doubt however that they will be on line by the year 2005 and none of the Oklahoma witnesses took into account the large phosphorus reductions associated therewith in their calculations. Based upon Dr. Walker's own figures which did not take into account any assimilation or reduction in loadings after 1988, as noted above, he was unable to testify, without qualification, that there would be any measurable violation of Oklahoma's W.Q.S. as they relate to nutrients.

The small percentage increases which Dr. Walker perdicted would occur, would, according to Dr. Gakstatter, be obscured by natural variations and users of the river will perceive no difference in water quality after Fayetteville begins discharging.

I am therefore of the opinion that based upon consideration of the entire record the discharge of the City of Fayetteville will not cause a violation of the Oklahoma W.Q.S. as they relate to nutrients during either high or low flow River conditions.

AESTHETICS

Section 7.10 of the Oklahoma 1985 W.Q.S. defines the Beneficial Use of Aesthetics as follows:

"[t]o be aesthetically enjoyable, the waters of the State must be free from floating materials and suspended substances that produce objectionable color and turbidity. The waters must also be free from noxious odors and tastes, and from materials that settle to form objectionable deposits, and discharges that produce undesirable or nuisance aquatic life."

Section 7.10(a) of the 1985 W.Q.S. provides as to color that:

"waters of the State shall be virtually free from all coloring materials which produce an aesthetically unpleasant appearance. Color producing substances, from other than natural sources, shall be limited to concentrations equivalent to 70 color units."

Section 4.10(b) of the 1982 O.W.Q.S. Turbidity, under the beneficial use of aesthetics, provides:

"[t]urbidity from other than natural sources shall be restricted to not exceed the following numerical limits:

- Warm Water Streams—50 Nephelometric Turbidity Units.
- (2) Warm Water Lakes—25 Nephelometric Turbidity Units.
- (3) Cold Water Streams—10 Nephelometric Turbidity Units.

In waters where background turbidity exceeds these values, turbidity from point sources shall be restricted to not exceed ambient levels. Unless due to purely natural or non-man induced conditions the turbidity levels may reasonably be expected to decrease as management of man induced nonpoint sources occur. These nuumberrs apply to normal stream flow conditions with turbidity levels up to seven days after high flow event to be decided on a case by case basis."

(Oklahoma Ex. No. 6(a), p. 10, section 4.10(a), 1982 O.W.Q.S.).

Under the 1985 O.W.Q.S., the section Turbidity has been moved from the beneficial use of Aesthetics to the beneficial use of Fish and Wildlife Propagation and renumbered as section 7.3(m). The only substantial changes in the section is that Cold Water Streams with the numerical limit of 10 Nephelometric Turbidity Units,

states that those streams are the ones designated as small-mouth bass fisheries or trout fisheries. (Oklahoma Ex. No. 6, p. 19, section 7.3(m), 1985 O.W.Q.S.).

Section 7.10(c) of the 1985 W.Q.S. define the Beneficial Use of Solids as follows:

"[t]he waters of the State shall be maintained so as to be essentially free of floating debris, bottom deposits, scum, foam and other materials, including suspended substances of a persistent nature, from other than a natural source".

Section 7.10(d) of the 1985 W.Q.S. for the Beneficial Use of Taste and Odor provides:

"[t] aste and odor producing substances from other than natural origin shall be limited to concentrations that will not interfere with the production of a potable water supply by modern treatment methods or produce abnormal flavors, colors, tastes and odors in fish flesh or other edible wildlife or result in offensive odors in the vicinity of the water, or otherwise interfere with beneficial uses.

of the City's discharge that would result in a violation of the above-quoted standards is nutrients. Since I have already concluded that the nutrient standard is not violated, it logically follows that the aesthetic standards will also not be violated.

The testimony of both the Oklahoma and Arkansas experts appear to demonstrate that no discernible violation of these aesthetic standards will occur because of the City's discharge.

The testimony of Dr. Walker, Oklahoma's primary expert witness, shows, as quoted above, that there will be no change in terms of algae growth, taste, odor and turbidity.

Dr. Gakstatter, whose testimony was not subjected to cross by the Oklahoma parties, testified that recreational users of the River basin would not be able to discern any change in the above cited standards. He also testified that any observable changes down stream from Lake Francis, to the extent they might be discerned, are caused by naturally occurring clay sediments in the Lake being re-entrained in the water column due to water flow and that such naturally occurring problems would clearly obscure any effects of the City's discharge (1985 intensive survey of the Illinois River in Arkansas and Oklahoma pp. 64-65; Transcript p. 681).

Dr. Cliff Thompson was also of the opinion that the City's discharge would not violate the Beneficial Uses of the River and there was no reason to believe that such discharge would violate the above-mentioned aesthetic standards or that there would be a measurable impact on any such parameters (pp. 255-56, 284, 287, 246-47, 282 of the Transcript).

The Oklahoma State Department of Health wrote in Fayetteville ex. no. 4, that there would be no noticeable impact on water quality in the Illinois River because the level of treatment at the City's plant was equivalent to the most thorough and complete treatment available.

Although Dr. Walker, in his pre-filed testimony, was of the opinion that the City's discharge would increase the spatial and temporal violation frequencies of the nutrient, dissolved oxygen, turbidity and solids water quality standards in Oklahoma, the data associated with such testimony did not support these conclusions. (Oklahoma ex. No. 8, p. 1 summary). These conclusions were also not deemed to be correct in the opinion of Dr. Gakstatter, who testified that although such assessments by Dr. Walker might be theoretically correct, from a practical stand point it would be difficult, if not impossible, to sufficiently demonstrate increased violation frequency due to the City's discharge (EPA ex. No. 4, p. 2).

Figure 21 of Dr. Walker's testimony, which contains bar graphs showing the predicted changes associated with the City's discharge show little or no change in the parameters involved and would, in any case, be obscured by naturally occurring variations (Gakstatter testimony p. 2). In addition, Dr. Walker, on cross-examination, testified that these predicted changes could not be perceived or measured (pp. 689 & 711, Transcript). This is true for low and average River flow conditions (p. 613, Transcript). If an aesthetic change cannot be seen or measured, there can be no violation.

The same conclusions apply to Dr. Schornick's testimony. His testimony, in this regard, suffered the same flaws as pointed out above under the discussions regarding nutrients. Dr. Schornick was of the invalid opinion that if theoretically measured increases existed they would automatically constitute violations of the W.Q.S., even if such changes in aesthetic parameters couldn't normally be measured or seen. (PP. 481-82, Transcript). This was not consistent with his opinion that if narrative standards, such as those under discussion here, couldn't be measured because they weren't observable to the human eye they would not cause a violation of the W.Q.S. (p. 482, Transcript). For these reasons as well as those discussed earlier, I am of the opinion that Dr. Schornick's testimony should be accorded little or no weight.

Based upon the record, in its entirety, I am of the opinion that the discharge from the City of Fayetteville will not cause a violation of the various aesthetic components, herein defined, in the State of Oklahoma.

DISSOLVED OXYGEN

The 1985 W.Q.S. on dissolved oxygen, under the Beneficial Use of Fish and Wildlife Propagation appears in section 7.3(a) and states as follows:

"Dissolved oxygen (D) criteria are designed to protect the diverse fisheries of Oklahoma. Allowable

loadings defined in Appendix I are designed to attain these criteria. Except for naturally occurring conditions, the dissolved oxygen criteria are as follows (Oklahoma Ex. 6, pp. 9-10, section 7.3(a) 1985 O.W.Q.S.):

Fishery Class	Date Applicable	D.O. Criteria (Minimum) (mg/L)	Seasonal Temp. 1 (C)
Secondary Warm Water I	Fishery		
Early Life Stages	April 1- June 15	4.0	25*
Other Life Stages			
Summer Conditions	June 16- Oct. 15	3.0	32
Winter Conditions	Oct. 16- March 31	3.0	18
Primary Warm Water Fis	shery		
Early Life Stages Other Life Stages	April 1- June 15	6.0+	25*
Summer Conditions	June 16- Oct. 15	5.0+	32
Winter Conditions	Oct. 16- March 31	5.0	18
Smallmouth Bass/Trout			
Early Life Stages	March 1- May 30	7.0+	22
Other Life Stages			
Summer Conditions	June 1- Oct. 15	6.0+	29
Winter Conditions	Oct. 16- Feb. 28	6.0	18

¹ For use in calculation of the allowable load as defined in Appendix I.

⁺ Because of natural diurnal dissolved oxygen fluctuation, a 1.0 mg/L dissolved oxygen concentration deficit shall be allowed for not more than eight (8) hours during any twenty-four (24) hour period.

^{*} Discharge limits necessary to meet summer conditions will apply from June 1 of each year.

Under the 1985 O.W.Q.S., the upper Illinois River above the 650 foot elevation level and the upper Illinois River from Tenkiller Dam, including Tenkiller Reservoir, to the 650 foot elevation level are both designated as Smallmouth Bass Fisheries, and require a minimum dissolved oxygen level of 7.0 between March 1, and May 30, and a minimum dissolved oxygen level of 6.0 during the remainder of the year. The lower Illinois River from the headwaters of Robert S. Kerr Reservoir to Tenkiller Dam have been designated as a Trout Fishery under the 1985 O.W.Q.S., requiring the same minimum dissolved oxygen levels as the segments of the river designated as Smallmouth Bass Fisheries. (Oklahoma Ex. No. 6, p. 36, 1985 O.W.Q.S.).

The Arkansas parties, on this issue, rely primarily on the Schornick report and Dr. Walker's testimony. Dr. Schornick's report, regarding dissolved oxygen, relies on increases in phosphorus and other nutrients as the reason for his belief that the City's discharge will violate such standards (PP. 3996-3997, Administrative Record). As discussed above, Dr. Schornick's testimony on nutrients is flawed and he admits on pp. 432-33 of the Transcript that he was "speculating" when he opined that the water quality standards would be violated in Oklahoma. I am therefore of the opinion that his testimony concerning dissolved oxygen are likewise flawed since they rely on increased nutrient levels as an indicator of said violations.

Dr. Walker's direct testimony regarding dissolved oxygen is based, in large measure, on the measurements he made in Lake Tenkiller, showing existing violations of the standards due to "intense algae photosynthesis" (PP. 12-13 of Prefiled Test).

Dr. Thompson testified that the oxygen assimilative capacity of Mud Creek and Clear Creek through which the effluent will run for about 16 miles, will protect the beneficial uses of the Illinois River.

The modeling done by the Arkansas Department of Pollution Control and Ecology (ADPC & E) demonstrate that not only will the effluent experience complete oxygen recovery by the time is reaches the Illinois River in Arkansas, but will act as an oxygen resource, actually adding oxygen to the River (PP. 258-59 Transcript). Appendix D of Arkansas's Ex. No. 3, shows, by modeling, that the minimum dissolved oxygen in the receiving stream of 6.1 mg/l for a discharge of 5/5/2 BOD5/TSS/ NHB-N. At a discharge of 10/15/1.5, BOD5/TSS/ NH3-N the model perdicts a minimum dissolved oxygen of 6.0 lb. These values will not violate Arkansas standards of 6 mg/L of dissolved oxygen in the receiving stream and will improve further down stream due to the high reareation and turbulance in the two creeks as they pass over the spillways and dams near the golf course.) The modeling also shows that the dissolved oxygen would be completely recovered by the time the effluent reaches Clear Creek, which is upstream of that Creek's confluence with the Illinois River in Arkansas (Arkansas Ex. No. 4, p. 8).

These modeling results were reviewed by Garret Bondy of Region VI, EPA as to its technical adequacy and kinetic rates used. He testified that these factors were reasonable and would maintain dissolved oxygen standards in Mud Creek, Clear Creek and the Illinois River. Mr. Bondy also testified that approximately 35% of the discharged CBOD and less than 10% of the NBOD would reach the Illinois River in Arkansas and would have no significant impact on the River in Arkansas. He also stated that since the Oklahoma border is approximately 22 miles further down stream there would be even less impact on Lake Francis.

As to Dr. Schornick and Dr. Walker's testimony reelating phosphorus levels to dissolved oxygen limits, the record indicates that no correlation between these two parameters has been attempted or demonstrated in the Illinois River system (Fayetteville Ex. No. 3, p. 2). As to Dr. Walker's concept that dissolved oxygen levels are reduced by photosynthesis of algae and periphyton, the opposite is true since oxygen is released, not added, by that action.

In view of the evidence showing complete oxygen recovery of the effluent in Arkansas some 37 miles upstream from the Oklahoma border, it is not possible for the City's effluent to violate the Oklahoma dissolved oxygen standards. This is particularly true in light of the fact that dissolved oxygen violations in Oklahoma are occurring without the City's discharge. I found no credible evidence to suggest that the frequency of these violations would increase due solely to the City's discharge.

METALS

Section 7.1(a) of the 1985 standards regarding metals is called Raw Water Numerical standards and states the criteria to be:

RAW WATER NUMERICAL LIMITS

KAN WAIEK	CMERICAL LIMITS
PARAMETERS	NUMERICAL LIMIT
(MG/L)	
Inorganic Elements	
Arsenic	.10
Barium	1.0
Cadmium	.02
Chromium	.05
Copper	1.0
Cyanide	.2
Fluoride	1.6
Lead	.10
Mercury	.002
Nitrates (as N)	10.0
Selenium	.01
Silver	.05
Zinc	5.0

Organic Chemicals

Benzide	.001
Detergents (total)	.2
Methylene blue	
active substances	.5
Phthalate esters	.003
2, 4-D	.1
2, 4, 5-TP Silvex	.01
Endrin	.0002
Lindane	.004
Methoxychlor	.1
Toxaphene	.005

The 1985 W.Q.S. for Toxic Substances under the Beneficial Use of Fish and Wildlife propagation found in section 7.3(h) provides for the Illinois River segment as follows:

Cadmium (Cd)	2.7 ug/L
Copper (Cu)	9.1 ug/L
Lead (Pb)	$35 \mathrm{ug/L}$
Mercury (Hg)	1.1 ug/L
Nickle (Ni)	96 ug/L*
Silver (Ag)	1.7 ug/L
Zine	127 ug/L

* A methodology to establish protective criteria for Nickel is being developed. Until further criteria are adopted the 1982 criteria for Nickel remain in effect.

STATEWIDE CRITERIA (ug/L)

Arsenic**	40 ug/L
Benzene	2,200 ug/L
Chromium	50 ug/L
Pentachlorophenol	1.4 ug/L
Selenium**	35 ug/L
Toluene	875 ug/L

^{**} A methodology to establish protection criteria for Arsenic and Selenium is being developed. Until further criteria are adopted the 1982 criteria for Arsenic and Selenium remain in effect.

The City of Fayyetteville's pretreatment standards, which are more stringent than required by E.P.A., provides that the following concentrations may not be exceeded at the head works of the City's new plant:

Arsenic (As)	.05 m	n/1
Barium (Ba)	5.00 m	n/1
Boron (Bo)	1.00 n	n/1
Cadmium (Cd)	0.02 n	n/1
Chromium (Cr)	0.05 n	n/1
Copper (Cu)	0.02 n	n/1
Cyanide (Cn)	0.05 n	n/1
Lead (Ph)	0.10 n	n/1
Manganese (Mn)	0.50 n	n/1
Mercury (Hg)	0.002 n	n/1
Nickel (Ni)	0.08 n	n/1
Selenium (Se)	0.02 n	n/1
Silver (Ag)	0.01 n	n/1
Zinc (Zn)	0.05 n	n/1

or other heavy metals or toxic materials, except by permit from the City specifying conditions of pretreatment, concentration, volumes, and other applicable provisions. (Fayetteville Ex. No. 2, p. 3).

These influent concentrations are equal to or more stringent than the 1985 Oklahoma W.Q.S. (Transcript P. 262). In 1986 the effluent from the City's old plant show the following for metals:

	Annual Average (mg/1)
Cadmium	0.010
Copper	0.0269
Chrome	0.0472
Lead	0.123

These levels are roughly equivalent to the 1985 Oklahoma W.Q.S.

According to Dr. Thompson, the new plant although not specifically designed to remove heavy metals, such

removals will nevertheless increase due to its treatment process, to a level of approximately 50% compared to a level of 35% for the old plant (PP. 249-50, 283, 251, Transcript). When the above-quoted influent levels are decreased by 50%, the discharge of the new plant will not contain measurable concentrations of metals and thus will cause no change in these parameters in the Oklahoma segment of the Illinois River (PP. 252-53, Transcript). In addition to the metal removal inherent in the new plant's treatment system, the added flow to the River when it reaches the Oklahoma border will result in further reductions in concentration of these values (PP. 250-51, Transcript).

Based upon the record, in its entirety, I am of the opinion that the discharge from the new Fayetteville facility will not cause a violation of the Oklahoma W.Q.S. as they relate to toxics or metals.

The Chief Judicial Officer also asked that I suggest any changes to the City's permit which might result from my analysis of the record. I feel that no changes are necessary since the permit already contains a mechanism for change should it be required, as follows:

"d. Permit Modification.

- (1) A joint Arkansas/Oklahoma/EPA water quality study of the Illinois River Basin is currently being conducted to determine the existing water quality causative factors and possible nutrient control measures.
- (2) If the findings of this study indicate that more stringent limitations for Fayetteville's effluent are necessary to insure that water qualtiy standards are met, then this permit will be modified to incorporate the more stringent limitations. This may require that additional treatment be provided or that the City's discharge to Mud Creek cease."

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In my judgment, this section would apply to all river flow conditions and thus low flow situations need not be separately addressed.

CONCLUSION

Based upon the entire record, including my Determinations as to Witness Credibility and Demeanor, I am of the opinion that the NPDES Permit herein discussed, should be issued as written.

> /s/ Thomas B. Yost THOMAS B. YOST Administrative Law Judge

Date: September 19, 1988

APPENDIX I

U.S. ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C.

NPDES Appeal No. 88-1

In the Matter of:

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT FOR

> CITY OF FAYETTEVILLE, ARKANSAS NPDES Permit No. AR0020010

SECOND ORDER ON PETITIONS FOR REVIEW

EPA Region VI,¹ Save the Illinois River (STIR),² and the Attorney General of the State of Oklahoma ³ filed separate appeals from the Administrative Law Judge's (ALJ's) Decision on Remand ⁴ in which he upheld the

¹ See Notice of Appeal and Petition for Review of EPA Region VI (October 24, 1988).

² See Notice of Appeal and Petition for Review filed by Save the Illinois River (STIR) (October 21, 1988).

³ See Notice of Appeal and Petition for Review of Decision on Remand (October 24, 1988). The Attorney General's appeal is filed on behalf of the State of Oklahoma, the Oklahoma Scenic River Commission and the Pollution Control Coordinating Board.

⁴ The ALJ's Decision on Remand was in response to an Order on Petitions for Review, which I issued on June 28, 1988, as the Administrator's delegatee pursuant to 40 CFR § 124.72(b). The Decision on Remand is dated September 19, 1988.

On October 10, 1988, I wrote a letter to the Regional Hearing Clerk suspending the time for the Administrator to exercise sua

issuance of an NPDES permit to the City of Fayetteville.⁵ Region VI supports issuance of the permit; however, its petition raises the issue of whether the ALJ erred when he ruled that the applicable water quality standards were not the 1982 standards (which were in effect at the time of the initial permit issuance), but

sponte review of the ALJ's decision under 40 CFR § 124.91(b). That letter is superseded by this order and there will be no sua sponte review.

5 On October 19, 1988, the City of Fayetteville, the State of Arkansas, the Arkansas Department of Pollution Control and Ecology, and the Beaver Water District filed a joint petition for review with the Regional Hearing Clerk. This joint petition is denied. EPA regulations require that petitions for review be filed "with the Administrator." See 40 CFR § 124.91(a). The joint Arkansas petition was never filed with the Administrator. In fact, the names of neither the Administrator, the Chief Judicial Officer (CJO), nor the EPA Headquarters Hearing Clerk appear on the certificate of service. I would not have been aware of this petition had my staff not discovered it by accident. Thus, the joint Arkansas petition was not filed properly, and as a consequence, it was also untimely. The Arkansas parties should have known that their petition must be filed with the Administrator-in the first appeal in this case, the Arkansas parties filed all documents properly with the Administrator. In any event, the petition does not show any clear error or that the CJO's Order on Petitions for Review or the ALJ's Decision on Remand otherwise warrant review under 40 CFR § 124.91. Once again, the Arkansas parties, in framing the arguments in their petition, ignore the important distinction between water quality laws or policies that are based purely in state law and those that a state has developed and submitted to the EPA as required by 42 U.S.C. § 1313, to become effective under the Clean Water Act (CWA). See Order Denying Motions for Reconsideration at 2-3 (September 12, 1988).

On October 17, 1988, the Oklahoma Wildlife Federation also filed a petition for review with the Regional Hearing Clerk. It adopts in full and incorporates by reference the Notice of Appeal and Petition for Review filed by the Oklahoma Attorney General. Because this petition was improperly filed, and as a consequence, untimely, review is denied.

rather were the post-issuance 1985 standards.⁶ In their petitions, STIR and the Oklahoma Attorney General (hereafter, the Oklahoma parties) each oppose issuance of the permit and together propose a variety of issues for review: 1) whether the ALJ erred in denying STIR's August 9, 1988 motion for reconsideration, which had sought a reopening of the evidentiary hearing on the adequacy of plant capacity; 2) whether the ALJ erred in

⁶ In its petition, Region VI requests the Administrator to withdraw certain statements in earlier rulings in this case. One such statement appears in the Administrator's September 12, 1988 order, where he states that the CWA "does not require a discharger in an upstream state to meet all water quality standards of a downstream state; the upstream discharger read only comply with those that have received EPA approval." See Order Denying Motions for Reconsideration at 2-3 (September 12, 1988). Region VI does not allege that the statement is erroneous in any respect; it simply asserts that this statement and the others are dicta and that they raise complex issues that do not need to be decided in this case (provided the 1982 standards, rather than the 1985 standards, are deemed applicable). Region VI notes, for example, that the statements do not address an apparent conflict with Decision of the General Counsel No. 58, In Re Bethlehem Steel Corp. (March 29, 1977), which holds that unapproved water quality standards, which are valid under state law, must be applied by EPA in issuing an NPDES permit (unless EPA promulgates superseding federal standards pursuant to section 303 of the Clean Water Act). Id. at 4-5.

Region VI has not persuaded me that withdwrawal of the statements is the proper course to follow, particularly in the absence of any arguments that the statements are erroneous. Nor do I believe further briefing is necessary. It suffices to note that the scope of the statements is limited to the context of this case and therefore the Region's concerns can be raised again in another case if warranted by the circumstances. Moreover, the statements do not purport to overrule the holding in Bethlehem Steel, supra, which is easily distinguishable on the grounds that it does not involve an interstate discharge. Conversely, Bethlehem Steel does not purport to hold that a discharger in an upstream state must comply with a downstream state's non-EPA approved water quality standards. It too must be read in context. The Region is at liberty to argue, in another case, that the statements in Fayetteville are dicta.

concluding that the permit discharge will not violate Oklahoma's water quality standards; 3) whether the ALJ erred in interpreting and applying the beneficial use limitation, the anti-degradation policy, and the nutrient standards; and 4) whether the ALJ erred in considering evidence of other cities reducing pollutant loadings in the future. For the reasons set forth below, review of the four issues raised by the Oklahoma parties is denied. I concur with Region VI, however, that the ALJ erred in using the 1985 Oklahoma water quality standards instead of the 1982 standards. As discussed below, this error is harmless and further review is not necessary.

Discussion

As explained in the first Order on Petitions for Review, there is no automatic right to review of an ALJ's decision in an NPDES permit proceeding. See 40 CFR § 124.91. A petition for review is generally granted only when the initial decision is clearly erroneous (legally or factually) or involves an exercise of discretion or policy that is important and should be reviewed by the Administrator. Kerr-McGee Nuclear Corporation (Church Rock Facility), NPDES Appeal No. 80-3 (May 15, 1980); Boston Edison Company, NPDES No. 78-7 (August 28, 1978). The party requesting review bears the burden of demonstrating that review should be granted. Id.

A. The 1985 Water Quality Standards

Region VI maintains that the ALJ improperly applied the 1985 Oklahoma water quality standards rather than the 1982 standards. The Region asserts that the water quality standards applicable to NPDES permits are those in effect at the time the permit is initially issued. As support for this assertion the Region cites 40 CFR § 122.43(b)(1):

For a permit issued by EPA, an applicable requirement is a statutory or regulatory requirement (including any interim final regulation) which takes

effect prior to the issuance of the permit * * * (emphasis added).

The Region also cites a Decision of the General Counsel, which states that "the relevant water quality standards are those in effect on the date of the initial permit issuance." 7

It is unclear from the Decision on Remand why the ALJ believed the 1985 standards had to be met by the facility.8 Prior to the evidentiary hearing. Judge Yost requested Region VI to submit a statement explaining which standards applied, the 1982 or the 1985. EPA's statement clearly established that the 1982 standards were in effect at the time of the initial permit issuance. All of the parties' briefs on remand that specifically addressed the issue stated that the 1982 standards should apply. I cannot find any arguments in those briefs in favor of the 1985 standards. Furthermore, the ALJ did not cite any authority to support his conclusion that the 1985 standards should apply.10 Thus, I conclude that the Region is correct and that the 1982 standards apply in the instant case. Although I am concluding that the ALJ committed clear error, I see no need for formal review and submission of briefs on this issue. No party

⁷ See Decision of General Counsel No. 58 (March 29, 1977).

⁸ See Decision on Remand at 2-3 (September 19, 1988).

⁹ See EPA's Statement Regarding Status of Water Quality Standards (August 29, 1986). Region VI issued the permit to Fayette-ville on November 5, 1985. Oklahoma did not pass what the parties refer to as the 1985 water quality standards until April 4, 1986. Id.

¹⁰ EPA regulations state that the Presiding Officer may grant a motion to apply regulations issued after the permit is issued when appropriate to carry out the purpose of CWA, and when no party would be unduly prejudiced. See 40 CFR § 124.86(c); see also 44 Fed. Reg. 32886-87 (June 7, 1979). Here, however, no such motion was filed, and, the provisions of 40 CFR 124.86(c) were never formally invoked.

has opposed the Region's petition.¹¹ I also agree with the Region that because the relevant portions of the 1985 standards do not differ materially from the 1982 standards, the error will not require any change in the decision's outcome. In addition, the parties have relied on the 1982 standards in framing their arguments throughout this proceeding. Accordingly, formal review will not be granted, despite my conclusion that the Region's petition has merit. Instead, the ALJ's decision will be allowed to stand with the understanding that the reference to the 1985 standards constitutes harmless error.

B. The Plant Capacity Issue

STIR argues in its petition that the ALJ erred in denying its August 9, 1988 motion for reconsideration, which had sought a reopening of the hearing to admit evidence of alleged dumping of raw sewage into Mud Creek during March, April, and May of this year. I disagree. The ALJ correctly stated that EPA regulations make no provisions for such relief. Moreover, I thoroughly addressed the issue of the adequacy of the plant's technology and capacity in the first Order on Petitions for Review, and I concluded that the ALJ's decision to dismiss it as an issue for the hearing was proper. STIR had ample opportunity to make its argument for reopening the hearing in its original petition for review. Nothing in STIR's current petition for review indues me to change the first Order on Petitions for Review.

C. The ALJ's Factual Findings

The Oklahoma parties argue that there was no substantial evidence to support the ALJ's factual findings that the Oklahoma water quality standards will not be violated. They allege several factual errors regarding the following standards: nutrients, turbidity, solids, taste and odor, and beneficial use. The proper standard for factual determinations in an administrative evidentiary hearing is the preponderance of the evidence. Steadman v. SEC, 450 U.S. 91, 101-102, n. 21 (1981); Charlton v. FTC, 543 F. 2d 903, 907 (D.C. Cir. 1976). In the first Order on Petitions for Review, I directed the ALJ to make detailed findings of fact and I stated that "the permit should be upheld if the record shows by a preponderance of the evidence that the authorized discharges would not cause * * * [a] violation of Oklahoma's water quality standards." 18 The ALJ satisfied these requirements. His findings are detailed, and he concluded that the record shows that no violations of the standards would occur. Although some evidence of theoretical violations appears in the record, the ALJ detailed his reasons for rejecting this evidence, and therefore, I accept his conclusion that it does not rise to a level that would prevent issuance of the permit. Thus, the Oklahoma parties have not persuaded me that his reasons were wrong, and review on this issue is denied.

D. The ALJ's Interpretation of the Water Quality Standards

The Oklahoma parties assert that the ALJ erred in interpreting and applying the Oklahoma water quality standards. Specifically, they point to alleged errors regarding the interpretation of the beneficial use limitation

¹¹ Although the Arkansas parties' response to the Region's petition was not filed within 15 days of the petition as required by 40 CFR § 124.91(a) (2), and thus, is untimely, it supports the Region's position that the 1982 standards are applicable to the Fayetteville permit. See Brief in Support of Response to Notice of Appeal and Petition for Review filed by EPA Region VI at 4-5 (November 14, 1988).

¹² STIR apparently believes that because I stated in an earlier ruling that EPA regulations make no provision for such relief "at this time," the proper time to raise this issue is now. However,

that earlier ruling was prior to the first Order on Petitions for Review. See Letter from Ronald L. McCallum, Chief Judicial Officer, EPA, to Ed Edmondson, Attorney for STIR (February 8, 1988).

¹³ Order on Petitions for Review at 12-13 (June 28, 1988).

and the nutrients standard. I disagree. In my view, the ALJ's interpretation of these standards was reasonable. He based his interpretation on the clear definitions of the words "pollution" and "eutrophication" that appear in Oklahoma's own standards. The Oklahoma parties have not met their burden of demonstrating that the ALJ committed clear error in interpreting these definitions or using them to aid in the interpretation of other parts of the water quality standards.

The Oklahoma parties also contend that the ALJ failed to address the alleged violation of Oklahoma's antidegradation policy. Again, I must disagree. Although the ALJ did not specifically use the words "anti-degradation policy," he implicitly addressed the policy in his detailed analysis of the discharge's potential impact on all relevant water quality parameters. Oklahoma's antidegradation policy is not a numerical standard, such as a dissolved oxygen standard. Instead, it is a "policy," which EPA regulations require every state to include as part of its water quality standards. See 40 CFR § 131.12. The policy protects existing water uses from "quality degradation." Id. For a quality degradation to exist, there must be a degradation caused by a change in some water quality parameter such as nutrients, metals, dissolved oxygen, etc. In his Decision on Remand, the ALJ concluded that the Fayetteville discharge would not cause a detectible change in any of these parameters. Specifically he found that the discharge would not cause: an increase in eutrophication due to increased nutrient loading: a detectible change in any aesthetic standard (i.e., color, taste, odor, and turbidity); a detectible change in the dissolved oxygen level; or a detectible change in metal concentrations. The ALJ also found that the discharge would not impact any of the mentioned parameters so as to violate the Oklahoma beneficial use limitation. The foregoing findings have an obvious bearing on Oklahoma's anti-degradation policy, for if the Fayetteville discharge will not cause a detectible change in any of the relevant water quality parameters, it logically follows that there will not be a "quality degradation." The Oklahoma parties have not shown that the ALJ failed to address any specific water quality parameter that would be degraded by the discharge. Thus, to the extent the ALJ erred in not making express reference to the anti-degradation policy, it was harmless error and therefore not a candidate for review.

E. The Consideration of Future Pollutant Reductions

The Oklahoma parties argue that the ALJ improperly considered the reductions in pollutant loadings that will occur when three new treatment plants go on line sometime in the future. I see no reason to examine whether this was a proper consideration because it is clear from the ALJ's detailed findings that he would have reached the same conclusion with or without the evidence of future reductions in pollutant loading. This evidence was only one of many factors that convinced the ALJ that the permit discharge would not violate Oklahoma's water quality standards. The ALJ determined, independent of his consideration of the future reductions of pollutants, that the relevant standards would not be violated due to the assimilative capacity of the river system.¹⁴

Conclusion

For the reasons stated above, review of STIR's and the Oklahoma Attorney General's petitions is denied. Although I agree with Region VI that the ALJ applied the wrong water quality standards, I find this error to be harmless.

So ordered.

/s/ Ronald L. McCallum Ronald L. McCallum Chief Judicial Officer

Dated: December 22, 1988

¹⁴ See Decision on Remand at 7-10 (September 19, 1988).

APPENDIX J

STATUTES INVOLVED

Section 301, 33 U.S.C. § 1311. Effluent limitations

(a) Illegality of pollutant discharges except in compliance with law

Except as in compliance with this section and sections 1312, 1316, 1317, 1328, 1342, and 1344 of this title, the discharge of any pollutant by any person shall be unlawful.

(b) Timetable for achievement of objectives

In order to carry out the objective of this chapter there shall be achieved—

- (1) (A) not later than July 1, 1977, effluent limitations for point sources, other than publicly owned treatment works, (i) which shall require the application of the best practicable control technology currently available as defined by the Administrator pursuant to section 1314(b) of this title, or (ii) in the case of a discharge into a publicly owned treatment works which meets the requirements of subparagraph (B) of this paragraph, which shall require compliance with any applicable pretreatment requirements and any requirements under section 1317 of this title; and
- (B) for publicly owned treatment works in existence on July 1, 1977, or approved pursuant to section 1283 of this title prior to June 30, 1974 (for which construction must be completed within four years of approval), effluent limitations based upon secondary treatment as defined by the Administrator pursuant to section 1314(d) (1) of this title; or,
- (C) not later than July 1, 1977, any more stringent limitation, including those necessary to meet

water quality standards, treatment standards, or schedules of compliance, established pursuant to any State law or regulations (under authority preserved by section 1370 of this title) or any other Federal law or regulation, or required to implement any applicable water quality standard established pursuant to this chapter.

- (2) (A) for pollutants identified in subparagraphs (C), (D), and (F) of this paragraph, effluent limitations for categories and classes of point sources, other than publicly owned treatment works, which (i) shall require application of the best available technology economically achievable for such category or class, which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants, as determined in accordance with regulations issued by the Administrator pursuant to section 1314(b)(2) of this title, which such effluent limitations shall require the elimination of discharges of all pollutants if the Administrator finds, on the basis of information available to him (including information developed pursuant to section 1325 of this title), that such elimination is technologically and economically achievable for a category or class of point sources as determined in accordance with regulations issued by the Administrator pursuant to section 1314(b)(2) of this title, or (ii) in the case of the introduction of a pollutant into a publicly owned treatment works which meets the requirements of subparagraph (B) of this paragraph, shall require compliance with any applicable pretreatment requirements and any other requirement under section 1317 of this title:
- (B) Repealed. Pub.L. 97-117, § 21(b), Dec. 29, 1981, 95 Stat. 1632.
- (C) with respect to all toxic pollutants referred to in table 1 of Committee Print Numbered 95-30

of the Committee on Public Works and Transportation of the House of Representatives compliance with effluent limitations in accordance with subparagraph (A) of this paragraph as expeditiously as practicable but in no case later than three years after the date such limitations are promulgated under section 1314(b) of this title, and in no case later than March 31, 1989;

- (D) for all toxic pollutants listed under paragraph (1) of subsection (a) of section 1317 of this title which are not referred to in subpargraph (C) of this paragraph compliance with effluent limitations in accordance with subparagraph (A) of this paragraph as expeditiously as practicable, but in no case later than three years after the date such limitations are promulgated under section 1314(b) of this title, and in not case later than March 31, 1989;
- (E) as expeditiously as practicable but in no case later than three years after the date such limitations are promulgated under section 1314(b) of this title, and in no case later than March 31, 1989, compliance with effluent limitations for categories and classes of point sources, other than publicly owned treatment works, which in the case of pollutants identified pursuant to section 1314(a)(4) of this title shall require application of the best conventional pollutant control technology as determined in accordance with regulations issued by the Administrator pursuant to section 1314(b)(4) of this title; and
- (F) for all pollutants (other than those subject to subparagraphs (C), (D), or (E), of this paragraph) compliance with effluent limitations in accordance with subparagraph (A) of this paragraph as expeditiously as practicable but in no case later than 3 years after the date such limitations are established, and in no case later than March 31, 1989.

(3) (A) for effluent limitations under paragraph (1) (A) (i) of this subsection promulgated after January 1, 1982, and requiring a level of control substantially greater or based on fundamentally different control technology than under permits for an industrial category issued before such date, compliance as expeditiously as practicable but in no case later than three years after the date such limitations are promulgated under section 1314(b) of this title, and in no case later than March 31, 1989; and

(B) for any effluent limitation in accordance with paragraph (1)(A)(i), (2)(A)(i), or (2)(E) of this subsection established only on the basis of section 1342(a)(1) of this title in a permit issued after February 4, 1987, compliance as expeditiously as practicable but in no case later than three years after the date such limitations are established, and in no case later than March 31, 1989.

Section 303, 33 U.S.C. § 1313. Water quality standards and implementation plans

(a) Existing water quality standards

(1) In order to carry out the purpose of this chapter, any water quality standard applicable to interstate waters which was adopted by any State and submitted to, and approved by, or is a waiting approval by, the Administrator pursuant to this Act as in effect immediately prior to October 18, 1972, shall remain in effect unless the Administrator determined that such standard is not consistent with the applicable requirements of this Act as in effect immediately prior to October 18, 1972. If the Administrator makes such a determination he hall, within three months after October 18, 1972, notify State and specify the changes needed to meet such requirements. If such changes are not adopted by the

State within ninety days after the date of such notification, the Administrator shall promulgate such changes in accordance with subsection (b) of this section.

- (2) Any State which, before October 18, 1972, has adopted, pursuant to its own law, water quality standards applicable to intrastate waters shall submit such standards to the Administrator within thirty days after October 18, 1972. Each such standard shall remain in effect, in the same manner and to the same extent as any other water quality standard established under this chapter unless the Administrator determines that such standard is inconsistent with the applicable requirements of this Act as in effect immediately prior to October 18, 1972. If the Administrator makes such a determination he shall not later than the one hundred and twentieth day after the date of submission of such standards, notify the State and specify the changes needed to meet such requirements. If such changes are not adopted by the State within ninety days after such notification, the Administrator shall promulgate such changes in accordance with subsection (b) of this section.
- (3) (A) Any State which prior to October 18, 1972, has not adopted pursuant to its own laws water quality standards applicable to intrastate waters shall, not later than one hundred and eighty days after October 18, 1972, adopt and submit such standards to the Administrator.
- (B) If the Administrator determines that any such standards are consistent with the applicable requirements of this Act as in effect immediately prior to October 18, 1972, he shall approve such standards.
- (C) If the Administrator determines that any such standards are not consistent with the applicable requirements of this Act as in effect immediately prior to October 18, 1972, he shall, not later than the ninetieth day after the date of submission of such standards, notify the State and specify the changes to meet such require-

ments. If such changes are not adopted by the State within ninety days after the date of notification, the Administrator shall promulgate such standards pursuant to subsection (b) of this section.

(b) Proposed regulations

- (1) The Administrator shall promptly prepare and publish proposed regulations setting forth water quality standards for a State in accordance with the applicable requirements of this Act as in effect immediately prior to October 18, 1972, if—
 - (A) the State fails to submit water quality standards within the times prescribed in subsection (a) of this section.
 - (B) a water quality standard submitted by such State under subsection (a) of this section is determined by the Administrator not to be consistent with the applicable requirements of subsection (a) of this section.
- (2) The Administrator shall promulgate any water quality standard published in a proposed regulation not later than one hundred and ninety days after the date he publishes any such proposed standard, unless prior to such promulgation, such State has adopted a water quality standard which the Administrator determines to be in accordance with subsection (a) of this section.

(c) Review; revised standards; publication

(1) The Governor of a State or the State water pollution control agency of such State shall from time to time (but at least once each three year period beginning with October 18, 1972) hold public hearings for the purpose of reviewing applicable water quality standards and, as appropriate, modifying and adopting standards. Results of such review shall be made available to the Administrator.

- (2) (A) Whenever the State revises or adopts a new standard, such revised or new standard shall be submitted to the Administrator. Such revised or new water quality standard shall consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses. Such standards shall be such as to protect the public health or welfare, enhance the quality of water and serve the purposes of this chapter. Such standards shall be established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and agricultural, industrial, and other purposes, and also taking into consideration their use and value for navigation.
- (B) Whenever a State reviews water quality standards pursuant to paragraph (1) of this subsection, or revises or adopts new standards pursuant to this paragraph, such State shall adopt criteria for all toxic pollutants listed pursuant to section 1317(a)(1) of this title for which criteria have been published under section 1314(a) of this title, the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses. Such criteria shall be specific numerical criteria for such toxic pollutants. Where such numerical criteria are not available, whenever a State reviews water quality standards pursuant to paragraph (1), or revises or adopts new standards pursuant to this paragraph, such State shall adopt criteria based on biological monitoring or assessment methods consistent with information published pursuant to section 1314(a) (8) of this title. Nothing in this section shall be construed to limit or delay the use of effluent limitations or other permit conditions based on or involving biological monitoring or assessment methods or previously adopted numerical criteria.

- (3) If the Administrator, within sixty days after the date of submission of the revised or new standard, determines that such standard meets the requirements of this chapter, such standard shall thereafter be the water quality standard for the applicable waters of that State. If the Administrator determines that any such revised or new standard is not consistent with the applicable requirements of this chapter, he shall not later than the ninetieth day after the date of submission of such standard notify the State and specify the changes to meet such requirements. If such changes are not adopted by the State within ninety days after the date of notification, the Administrator shall promulgate such standard pursuant to paragraph (4) of this subsection.
- (4) The Administrator shall promptly prepare and publish proposed regulations setting forth a revised or new water quality standard for the navigable waters involved—
 - (A) if a revised or new water quality standard submitted by such State under paragraph (3) of this subsection for such waters is determined by the Administrator not to be consistent with the applicable requirements of this chapter, or
 - (B) in any case where the Administrator determines that a revised or new standard is necessary to meet the requirements of this chapter.

The Administrator shall promulgate any revised or new standard under this paragraph not later than ninety days after he publishes such proposed standards, unless prior to such promulgation, such State has adopted a revised or new water quality standard which the Administrator determines to be in accordance with this chapter.

- (d) Identification of areas with insufficient controls; maximum daily load; certain effluent limitations revision
- (1) (A) Each State shall identify those waters within its boundaries for which the effluent limitations required by section 1311(b) (1) (A) and section 1311(b) (1) (B) of this title are not stringent enough to implement any water quality standard applicable to such waters. The State shall establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such waters.
- (B) Each State shall identify those waters or parts thereof within its boundaries for which controls on thermal discharges under section 1311 of this title are not stringent enough to assure protection and propagation of a balanced indigenous population of shellfish, fish, and wildlife.
- (C) Each State shall establish for the waters identified in paragraph (1)(A) of this subsection, and in accordance with the priority ranking, the total maximum daily load, for those pollutants which the Administrator identifies under section 1314(a)(2) of this title as suitable for such calculation. Such load shall be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality.
- (D) Each State shall estimate for the waters identified in paragraph (1)(B) of this subsection the total maximum daily thermal load required to assure protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife. Such estimates shall take into account the normal water temperatures, flow rates, seasonal variations, existing sources of heat input, and the dissipative capacity of the identified waters or parts thereof. Such estimates shall include a calculation of the maximum heat input that can be made into each such

part and shall include a margin of safety which takes into account any lack of knowledge concerning the development of thermal water quality criteria for such protection and propagation in the identified waters or parts thereof.

- (2) Each State shall submit to the Administrator from time to time, with the first such submission not later than one hundred and eighty days after the date of publication of the first identification of pollutants under section 1314(a) (2) (D) of this title, for his approval the waters identified and the loads established under paragraphs (1) (A), (1) (B), (1) (C), and (1) (D) of this subsection. The Administrator shall either approve or disapprove such identification and load not later than thirty days after the date of submission. If the Administrator approves such identification and load, such State shall incorporate them into its current plan under subsection (e) of this section. If the Administrator disapproves such identification and load, he shall not later than thirty days after the date of such disapproval identify such waters in such State and establish such loads for such waters as he determines necessary to implement the water quality standards applicable to such waters and upon such identification and establishment the State shall incorporate them into its current plan under subsection (e) of this section.
- (3) For the specific purpose of developing information, each State shall identify all waters within its boundaries which it has not identified under paragraph (1)(A) and (1)(B) of this subsection and estimate for such waters the total maximum daily load with seasonal variations and margins of safety, for those pollutants which the Administrator identifies under section 1314(a)(2) of this title as suitable for such calculation and for thermal discharges, at a level that would assure protection and propagation of a balanced indigenous population of fish, shell-fish, and wildlife.

(4) Limitations on revision of certain effluent limitations

(A) Standard not attained

For waters identified under paragraph (1) (A) where the applicable water quality standard has not yet been attained, any effluent limitation based on a total maximum daily load or other waste load allocation established under this section may be revised only if (i) the cumulative effect of all such revised effluent limitations based on such total maximum daily load or waste load allocation will assure the attainment of such water quality standard, or (ii) the designated use which is not being attained is removed in accordance with regulations established under this section.

(B) Standard attained

For waters identified under paragraph (1) (A) where the quality of such waters equals or exceeds levels necessary to protect the designated use for such waters or otherwise required by applicable water quality standards, any effluent limitation based on a total maximum daily load or other waste load allocation established under this section, or any water quality standard established under this section, or any other permitting standard may be revised only; if such revision is subject to and consistent with the antidegradation policy established under this section.

Section 401, 33 U.S.C. § 1341. Certification

- (a) Compliance with applicable requirements; application; procedures; license suspension
- (1) Any applicant for a Federal license or permit to conduct any activity including, but not limited to, the

construction or operation of facilities, which may result in any discharge into the navigable waters, shall provide the licensing or permitting agency a certification from the State in which the discharge originates or will originate, or, if appropriate, from the interstate water pollution control agency having jurisdiction over the navigable waters at the point where the discharge originates or will originate, that any such discharge will comply with the applicable provisions of sections 1311, 1312, 1313, 1316, and 1317 of this title. In the case of any such activity for which there is not an applicable effluent limitation or other limitation under sections 1311(b) and 1312 of this title, and there is not an applicable standard under sections 1316 and 1317 of this title, the State shall so certify, except that any such certification shall not be deemed to satisfy section 1371(c) of this title. Such State or interstate agency shall establish procedures for public notice in the case of all applications for certification by it and, to the extent it deems appropriate, procedures for public hearings in connection with specific applications. In any case where a State or interstate agency has no authority to give such a certification, such certification shall be from the Administrator. If the State, interstate agency, or Administrator, as the case may be, fails or refuses to act on a request for certification, within a reasonable period of time (which shall not exceed one year) after receipt of such request, the certification requirements of this subsection shall be waived with respect to such Federal application. No license or permit shall be granted until the certification required by this section has been obtained or has been waived as provided in the preceding sentence. No license or permit shall be granted if certification has been denied by the State, interstate agency, or the Administrator, as the case may be.

(2) Upon receipt of such application and certification the licensing or permitting agency shall immediately notify the Administrator of such application and certification. Whenever such a discharge may affect, as determined by the Administrator, the quality of the waters of any other State, the Administrator within thirty days of the date of notice of application for such Federal license or permit shall so notify such other State, the licensing or permitting agency, and the applicant. If, within sixty days after receipt of such notification, such other State determines that such discharge will affect the quality of its waters so as to violate any water quality requirements in such State, and within such sixty-day period notifies the Administrator and the licensing or permitting agency in writing of its objection to the issuance of such license or permit and requests a public hearing on such objection, the licensing or permitting agency shall hold such a hearing. The Administrator shall at such hearing submit his evaluation and recommendations with respect to any such objection to the licensing or permitting agency. Such agency, based upon the recommendations of such State, the Administrator, and upon any additional evidence, if any, presented to the agency at the hearing. shall condition such license or permit in such manner as may be necessary to insure compliance with applicable water quality requirements. If the imposition of conditions cannot insure such compliance such agency shall not issue such license or permit.

Section 402, 33 U.S.C. § 1342. National pollutant discharge elimination system

(a) Permits for discharge of pollutants

(1) Except as provided in sections 1328 and 1344 of this title, the Administrator may, after opportunity for public hearing, issue a permit for the discharge of any pollutant, or combination of pollutants, notwithstanding section 1311(a) of this title, upon condition that such discharge will meet either (A) all applicable require-

quirements under sections 1311, 1312, 1316, 1317, 1318, and 1343 of this title, or (B) prior to the taking of necessary implementing actions relating to all such requirements, such conditions as the Administrator determines are necessary to carry out the provisions of this chapter.

- (2) The Administrator shall prescribe conditions for such permits to assure compliance with the requirements of paragraph (1) of this subsection, including conditions on data and information collection, reporting, and such other requirements as he deems appropriate.
- (3) The permit program of the Administrator under paragraph (1) of this subsection, and permits issued thereunder, shall be subject to the same terms, conditions, and requirements as apply to a State permit program and permits issued thereunder under subsection (b) of this section.

(b) State permit programs

At any time after the promulgation of the guidelines required by subsection (i) (2) of section 1314 of this title, the Governor of each State desiring to administer its own permit program for discharges into navigable waters within its jurisdiction may submit to the Administrator a full and complete description of the program it proposes to establish and administer under State law or under an interstate compact. In addition, such State shall submit a statement from the attorney general (or the attorney for those State water pollution control agencies which have independent legal counsel), or from the chief legal officer in the case of an interstate agency, that the laws of such State, or the interstate compact, as the case may be, provide adequate authority to carry out the described program. The Administrator shall approve each submitted program unless he determines that adequate authority does not exist:

(1) To issue permits which-

- (A) apply, and insure compliance with, any applicable requirements of sections 1311, 1312, 1316, 1317, and 1343 of this title;
- (B) are for fixed terms not exceeding five years; and
- (C) can be terminated or modified for cause including, but not limited to, the following:
 - (i) violation of any condition of the permit;
 - (ii) obtaining a permit by misrepresentation, or failure to disclose fully all relevant facts;
 - (iii) change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge;
 - (D) control the disposal of pollutants into wells;
- (2) (A) To issue permits which apply, and insure compliance with, all applicable requirements of section 1318 of this title; or
- (B) To inspect, monitor, enter, and require reports to at least the same extent as required in section 1318 of this title;
- (3) To insure that the public, and any other State the waters of which may be affected, receive notice of each application for a permit and to provide an opportunity for public hearing before a ruling on each such application;
- (4) To insure that the Administrator receives notice of each application (including a copy thereof) for a permit;
- (5) To insure that any State (other than the permitting State), whose waters may be affected by the issuance of a permit may submit written recommenda-

tions to the permitting State (and the Administrator) with respect to any permit application and, if any part of such written recommendations are not accepted by the permitting State, that the permitting State will notify such affected State (and the Administrator) in writing of its failure to so accept such recommendations together with its reasons for so doing;

- (6) To insure that no permit will be issued if, in the judgment of the Secretary of the Army acting through the Chief of Engineers, after consultation with the Secretary of the department in which the Coast Guard is operating, anchorage and navigation of any of the navigable waters would be substantially impaired thereby;
- (7) To abate violations of the permit or the permit program, including civil and criminal penalties and other ways and means of enforcement;
- (8) To insure that any permit for a discharge from a publicly owned treatment works includes conditions to require the identification in terms of character and volume of pollutants of any significant source introducing pollutants subject to pretreatment standards under section 1317(b) of this title into such works and a program to assure compliance with such pretreatment standards by each such source, in addition to adequate notice to the permitting agency of (A) new introductions into such works of pollutants from any source which would be a new source as defined in section 1316 of this title if such source were discharging pollutants, (B) new introductions of pollutants into such works from a source which would be subject to section 1311 of this title if it were discharging such pollutants, or (C) a substantial change in volume or character of pollutants being introduced into such works by a source introducing pollutants into such works at the time of issuance of the permit. Such notice shall include information on the quality and quantity of effluent to be introduced into such treatment works and

any anticipated impact of such change in the quantity or quality of effluent to be discharged from such publicly owned treatment works; and

(9) To insure that any industrial user of any publicly owned treatment works will comply with sections 1284
(b), 1317, and 1318 of this title.

(d) Notification of Administrator

- (1) Each State shall transmit to the Administrator a copy of each permit application received by such State and provide notice to the Administrator of every action related to the consideration of such permit application, including each permit proposed to be issued by such State.
- (2) No permit shall issue (A) if the Administrator within ninety days of the date of his notification under subsection (b) (5) of this section objects in writing to the issuance of such permit, or (B) if the Administrator within ninety days of the date of transmittal of the proposed permit by the State objects in writing to the issuance of such permit as being outside the guidelines and requirements of this chapter. Whenever the Administrator objects to the issuance of a permit under this paragraph such written objection shall contain a statement of the reasons for such objection and the effluent limitations and conditions which such permit would include if it were issued by the Administrator.
- (3) The Administrator may, as to any permit application, waive paragraph (2) of this subsection.
- (4) In any case where, after December 27, 1977, the Administrator, pursuant to paragraph (2) of this subsection, objects to the issuance of a permit, on request of the State, a public hearing shall be held by the Administrator on such objection. If the State does not resubmit such permit revised to meet such objection within

30 days after completion of the hearing, or, if no hearing is requested within 90 days after the date of such objection, the Administrator may issue the permit pursuant to subsection (a) of this section for such source in accordance with the guidelines and requirements of this chapter.

Section 510, 33 U.S.C. § 1370. State authority

Except as expressly provided in this chapter, nothing in this chapter shall (1) preclude or deny the right of any State or political subdivision thereof or interstate agency to adopt or enforce (A) any standard or limitation respecting discharges of pollutants, or (B) any requirement respecting control or abatement of pollution; except that if an effluent limitation, or other limitation, effluent standard, prohibition, pretreatment standard, or standard of performance is in effect under this chapter, such State or political subdivision or interstate agency may not adopt or enforce any effluent limitation, or other limitation, effluent standard, prohibition, pretreatment standard, or standard of performance which is less stringent than the effluent limitation, or other limitation, effluent standard, prohibition, pretreatment standard, or standard of performance under this chapter; or (2) be construed as impairing or in any matter effecting any right or jurisdiction of the States with respect to the waters (including boundary waters) of such States.